UGANDA PROTECTORATE

ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

For the year ended 31st December, 1951

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SECTION I—GENERAL REVIEW

Weather

Except in the districts bordering Lake Victoria the year started with rainfalls which were not exceptional and rain in January and February was below average in many areas of the Protectorate. The spring rains broke early in March and up to the end of May precipitation was generally higher than normal. This period was followed by a lull in rainfall and although from June to September the weather was drier than usual it was adequate for plant growth.

From October to the end of the year, however, heavy rains were experienced in most parts of the Protectorate and in all districts the month of December was exceptionally wet. At Entebbe, for example, the December fall of 13·3 inches was approximately three times the average for that month; similarly at Gulu the rainfall in November and December totalled 16·0 inches compared with the average for these months of 5·3 inches.

The year under review was therefore one of high but unevenly distributed rainfall, but with good rains during both the spring and late autumn planting seasons, so that planting conditions for most crops were very favourable.

African Agriculture

GENERAL

During 1951 the main activities of the Department, both in the field and at its research stations, continued to be directed towards not only the comparatively short-term aspect of agricultural improvement and betterment but also to the long-term development of the industry. In regard to the former or short-term conception the aim is steadily to improve the existing farming systems by persuading farmers to introduce into their farming economy those new and improved varieties of crops and those agricultural methods which investigational work at research stations has proved to be beneficial and practical of application. But the increase in production which can be brought about by these improvements is subject to the limitations imposed by the existing methods and pattern of our peasant agriculture, and because of this an endeavour is now being made to introduce more modern systems of farming into African agriculture. Work of this nature is long-term in its conception and execution as it implies the use of implements in place of the hoe and in consequence the reorientation of holdings and an adjustment in farm layout so that implements can be used as economically as possible.

Within the framework of the general agricultural policy, the production of an adequate supply of food has continued to receive particular attention and despite ill-distributed rainfall conditions, ample supplies were produced throughout the Protectorate and any shortages

which occurred were of a minor and purely local nature. By the end of the year and largely in consequence of the unusually good second rains, reserves of root crops in the ground were above average and prospects for future supplies were excellent.

From the aspect of increased economic crop production, substantial increases in the producer prices of the major crops were of considerable assistance in attaining satisfactory levels of production. Seed Cotton prices were advanced from Shs. 33 to Shs. 45 per 100 lb. for the variety B.P.52 with proportionate increases for other growths and the price payable for coffee at licensed curing works was increased from Shs. 40 to Shs. 50 per 100 lb. of sun-dried Robusta coffee, prices for hulled coffee and Arabica coffee being increased similarly. There were also price increases for groundnuts and maize and although recorded sales of the latter crop were low owing to heavy purchases being made outside the official primary marketing organisation, there is little doubt that production surplus to farmers' requirements reached a level which was adequate for the maize meal requirements of the Protectorate.

An interesting and potentially valuable innovation in African agriculture which made good progress during the year was the development of group farming on a communal basis, which will be dealt with in more detail later in this report in the appropriate section. Based as it is to some extent on the traditional practice of certain tribes, such a system of farming is likely to be capable of considerable extension and it is being fostered by the Department for that reason and for the agricultural and economic advantages which may reasonably be expected to accrue from it.

Buganda

Unsatisfactory weather conditions during the planting season were responsible for some reductions in the cotton acreage planted during the year. A scarcity of immigrant labour, of which the larger growers normally employ large numbers, was also a contributory factor. There was, therefore, a high proportion of late planted cotton, but this responded well to the better weather conditions of the latter part of the year and by the end of the year yield prospects were satisfactory.

The Buganda coffee crop made a further production record with a crop of approximately 34,000 tons. The increased price encouraged growers to devote an unusually high proportion of their time to the cultivation of the crop and there was also some improvement in its preparation for market, although the unusually wet weather towards the end of the year was responsible for some deterioration in "appearance."

The Mubende tobacco crop experienced unfavourable dry weather during its growing season, which resulted in low yields and exceptionally wet conditions during the curing and marketing period was also responsible for some loss of crop. Total production at 531,157 lbs. of cured leaf was some 170,000 lbs. below that of the previous year's crop.

While acreages planted to maize were similar to those of the previous season, recorded sales were approximately 10,000 tons less than those of the previous season. It is considered, however, that actual production probably reached a level similar to that obtained in 1950 and

that the apparent shortfall was due to sales made outside the official primary marketing organisation. Recorded production of soya beans and mixed beans was also low for similar reasons although the wet conditions of the latter part of the year also had some effect by lowering yields. Considerable sums of money were made by growers who took advantage of high prices for castor beans and a crop of approximately 4,600 tons was marketed of a value in the order of £385,000.

Satisfactory progress was made in the extension of soil conservation methods and the development of communal effort in the protection of land from erosion was particularly striking and resulted in the construction of many miles of bunds in village areas.

Apart from minor temporary scarcities of foodstuffs in Mubende and Masaka districts, the Province as a whole had ample supplies of food throughout the year.

EASTERN PROVINCE

In the Province as a whole it was a good year for the African farmer. Cotton production from the 1950–51 crop was very satisfactory with sales of seed cotton recorded at 87,000 tons compared with 74,000 tons in the previous year. Teso district had a particularly good cotton season, largely as a result of the introduction of the new variety S.47 combined with seed dressing against Blackarm disease and production in that district was approximately twice the average crop.

The production of groundnuts was well maintained at 16,000 tons of shelled nuts, Busoga district being the principal contributor towards this total. Maize sales, however, were substantially less than those of recent years for reasons similar to those applicable to Buganda.

The Bugishu Arabica coffee crop of the 1950–51 season was the second largest crop yet recorded and totalled 4,370 tons, of which 3,896 tons were parchment coffee. The subsequent season's crop, however, is not expected to make more than 2,200 tons of parchment.

Food production was generally satisfactory. The early planted finger millet crop which provides the principal staple food throughout the greater part of the Province was planted under favourable conditions and in most areas average yields were harvested. Good reserves of root crops were maintained, in particular of cassava, but pulse crops were affected by the abnormally wet weather conditions during the latter half of the year and yields tended to be low. The plantain crop on the other hand responded well to the wet conditions and production was above average.

There were further extensions of the use of grass strips to control erosion and contour bunds planted with Paspalum grass were used more widely among perennial crops. Agricultural competitions and the co-operation of Social Welfare teams were of considerable assistance in encouraging progress in soil conservation methods, but there is still scope for considerable improvement, particularly in Busoga district.

WESTERN PROVINCE

Despite abnormal weather conditions, food production was satisfactory in all districts and the year closed with adequate stocks of food in the ground and in store.

Economic crop production was variable. There was some increase in cotton and coffee production, but the Bunyoro tobacco crop was the lowest marketed since 1940. This was due primarily to a marked reduction in the acreage planted, for which unfavourable weather conditions during the planting season were largely responsible. There was also a decline in the production of nicotine tobacco and flax in Kigezi and Ankole districts, but there were marked increases in sales of castor seed, maize field peas and European potatoes. A scheme for the production of vegetables to supply the Kampala market was started in Kigezi district and gives some promise of being successful.

Good progress continued to be made in soil conservation and while Kigezi retained its position of pre-eminence in this respect, rapid strides were made in Ankole district, and Bunyoro and Toro went ahead steadily.

The Kigezi re-settlement scheme continued to make satisfactory progress and during the year a further 1,275 people moved into the settlement area, making a total of 17,793 since the scheme began in 1946. The extension of this scheme to Ankole district was initiated and organised settlement of people from Kigezi on vacant lands in Igara county of Ankole district was commenced. Progress has been slow but by the end of the year 140 householders from Kigezi had taken up land in the new area.

The land development scheme in Bunyoro district, to which reference was made in last year's report, has progressed satisfactorily and the operating company has established itself well in the area. Despite initial difficulties, inseparable from the use of mechanical equipment in the early stages of such a scheme, clearing went ahead well and although it was possible to plant only 80 acres during the year, crop yields were good and augured well for the future.

NORTHERN PROVINCE

Food production was generally satisfactory throughout the year in all districts and the planting of famine food reserves of cassava received strong support from the African Local Governments.

Cotton continued to be the sole crop of major economic importance and for the 1951–52 season the replacement of existing seed stocks with the variety S.47 was completed in all cotton growing areas of the Province. This introduction, coupled with a marked improvement in the cultural methods is expected to increase cotton production to a considerable extent and at the end of the year under review it was anticipated that the previous highest crop of 51,000 bales would be exceeded by approximately 20,000 bales.

The production of air and flue cured tobacco continued to expand and cultivation of the latter crop was extended to Acholi district.

No success was achieved in the continuation of the previous year's attempt to establish groundnuts and simsim as minor economic crops, but the introduction of sunflowers into the West Nile district has proved to be popular and a surplus production of some 200 tons from the 1951 plantings is anticipated.

Flood water irrigation schemes in Karamoja district were maintained satisfactorily and the operation of these schemes has proved sufficiently successful to permit of prepared fields being handed over to the local cultivators for use on a crop share rental basis.

Non-African Agriculture

Coffee

There was an increase in estate production of Robusta coffee and for the crop season which ended on the 30th June, 1951, sales through the Non-Native Coffee Marketing Board amounted to 3,846 tons as compared with 3,060 tons for the previous season. In addition a total of 323 tons of Arabica coffee was sold. Shipments of Robusta coffee to the Ministry of Food amounted to 1,708 tons valued at £275,537 and quantities sold on Kenya auctions totalled 2,138 tons. The all-over average price for the latter for all grades was Shs. 297/64 per cwt. as compared with Shs. 243/59 during the previous season. All Arabica production was sold on auction and prices obtained averaged Shs. 372 per cwt. for all types.

Tea

Five additional tea planting licences were issued during the year; tea plantings showed a steady increase, and by the end of 1951 the total tea acreage in the Protectorate was in the order of 7,000 acres. Production of made tea continued at a satisfactory level and the total amount produced was 4,257,763 lbs. as compared with 4,142,584 lbs. in the previous year. Exports overseas amounted to 2,341,770 lbs. and allocations to the local market totalled 1,915,993 lbs.

The Uganda Tea Board, which was established in the previous year, fulfilled its functions satisfactorily and maintained clear liaison with the East African Central Tea Committee. Contributions were made by the Board to the International Tea Marketing Expansion Board and to the newly established Tea Research Institute of East Africa, the headquarters of which are at Kericho. Dr. T. Eden, the Director of the Institute, visited several Uganda tea estates during the year to discuss local problems and it is anticipated that the work of the Institute will be of considerable benefit to the Uganda tea industry.

Sugar

The production of sugar during 1951 amounted to 48,783 tons of "plantation white" sugar as compared with 54,623 tons in the previous year. Of this total 18,717 tons were exported to other East African territories, the balance being allocated for local consumption in Uganda.

As previously, production was confined to the Lugazi and Madhvaninagar (Kakira) sugar estates which were visited during the year by a specialist sugar agronomist at the invitation of the Uganda Government for the purpose of assisting the estates with advice on sugar production problems.

Sisal

The single Uganda sisal estate at Masindi Port produced a total of 1,190 tons of fibre of all grades which was slightly in excess of last year's figure of 1,023 tons.

MISCELLANEOUS CROPS

Pyrethrum.—Production is confined to one estate situated in Kigezi district and in 1951 this produced 14 tons of dried flowers for export which was valued at £2,150.

Rubber.—No interest is being taken in the further development of this crop, but there was an increase in tapping on existing estates and 229 tons of an estimated value of £90,000 were produced for export.

Chillies.—Good prices stimulated interest in this crop and a few non-African estates embarked on a small scale production.

Tobacco.—Estates in Bunyoro continued to produce a small quantity of fire-cured tobacco and in the West Nile district estate production of flue-cured tobacco leaf amounted to some 63,000 lbs.

Other crops.—Papain, loofahs, castor seed and vanilla were produced on a small scale by a few non-African estates.

Agricultural Industries

COTTON GINNERIES

There was no increase in the number of registered ginneries, which is fixed at 193, and of these 155 were operated during the 1951 ginning season.

The Uganda Growers' Co-operative Union leased for one year a second ginnery situated at Kawempe, near Kampala, and this was operated by the Union during the 1951 ginning season. Towards the end of the year negotiations were started which were ultimately satisfactorily concluded, for the leasing by the Union of two outlying ginneries for operation in 1952 in replacement of the Kawempe ginnery.

The most noteworthy event of the year in relation to ginneries was the publication of Government's proposals for the re-organisation of the Cotton Ginning Industry. This difficult problem had been under close examination by Government in consultation with the ginning industry since 1949 and it is satisfactory that finality has at last been reached. These proposals, subject to subsequent legislative sanction, provide for:—

(*a*) The rationalisation and economic adjustment of the ginning capacity of the Protectorate by reducing the number of existing ginneries from 193 to 158 and whereby the 35 ginneries to be eliminated under this scheme will be acquired by Government in the interests of the cotton industry as a whole.

(*b*) Radical improvements in the standards of the remaining ginneries, especially in respect of ginnery machinery, buildings, equipment and storage.

(*c*) Progressive participation by African co-operative enterprises in the ginning industry by making provision for the acquisition by Government on behalf of African co-operatives of up to 20 to 21 ginneries during the five-year period 1952–1956.

(*d*) Further participation by African co-operatives in the event of annual production exceeding 350,000 bales according to the degree of crop increase and the requirements of the African co-operative movement.

(*e*) The formation of a Cotton Development Council to secure the largest possible measure of co-operation between all sections of the industry.

Full details of these proposals were published in the Gazette Extraordinary No. 46 of the 27th September, 1951, and draft legislation in support was published later in the year which was finally enacted on the 3rd April, 1952. The re-organisation proposed and as finally agreed is limited to the ten-year period 1952–1961.

As in the previous year, all lint cotton produced in Uganda was disposed of by the Lint Marketing Board partly by bulk sale jointly to the United Kingdom Raw Cotton Commission and the Government of India and partly by free market auctions held in Kampala. The bulk sale was made on the basis of an F.A.Q. standard for each growth, the actual price payable being varied by premia or discounts on an agreed scale according to the classification of the deliveries made against actual physical grade standards. Reference to this scheme was made in last year's report and it is satisfactory to record that these arrangements worked well and received the full co-operation of the Board's principal overseas buyers. Basic lint prices payable to ginners continued to be based upon an F.A.Q. standard for each growth but as an incentive to better ginning, ginners received agreed premia for the two grades which were set above the standard and paid penalties for all sub-standard lint produced.

Coffee Curing Works

The curing of the Protectorate's Robusta coffee crop, which is now of the order of 30,000 tons per year, is handled by six working curing works, two of which are situated in Masaka district and four in Mengo district. During the year, two of the larger Mengo works embarked on the building of factories in replacement of their existing undertakings which are unsuitably sited in the business area of Kampala.

Some progress was made with plans for the reorganisation of the coffee industry to provide for the participation of African interest in the processing side of the industry and at the time of preparation of this report these had been completed and published.

Oil Mills and Refineries

Twenty-nine oil mills were operated during the year and these dealt with 71,469 tons of cotton seed and approximately 14,000 tons of groundnuts in the 1950–51 milling season. Oil production totalled 1,882,400 gallons of cotton seed oil and 1,260,000 gallons of groundnut oil with an equivalent cake production of 28,960 tons and 8,400 tons respectively. As in previous years the greater part of the production of oil was exported to other East African territories while the bulk of the oilcakes was purchased by the Ministry of Food. In respect of cotton seed and groundnut oils, exports during 1951 accounted for 1,857,600 gallons and 1,050,000 gallons respectively and total cake exports amounted to 33,355 tons, of which 22,305 tons went to the Ministry of Food.

Towards the end of the year plans were made for the partial decontrol of cotton seed for the 1951–52 season by providing for the auctioning by the Oilseed Control of a portion of the supplies of cotton

seed required for milling. Control was maintained over the disposal of the resultant cake but millers were free to dispose of the oil in any market of their choice.

GENERAL

Licences issued during 1951 by the Commissioner of Customs and Excise, East Africa, under the Excise Duties Ordinance, 1937, for the manufacture in Uganda of the undermentioned articles were as follows:—

Article	*Number of Licences Issued*
Tobacco and cigarettes	2
Cigars and cheroots	1
Sugar	2

Soil Conservation

The protection of the land from soil erosion and the maintenance of soil fertility continued to receive the close attention of all field staff and the response to their efforts has been encouraging. In Buganda, where a high proportion of the land in cultivation is under permanent or semi-permanent crops, outstanding progress was made in the construction by communal gangs of tied bunds planted with *Paspalum notatum*. Similar work continued in other areas, particularly in permanent crops. In Bugishu, although this form of protection has been generally effective, the width of the strips on the steeper slopes has been too great to permit natural terrace formation and accordingly attempts to reduce the width have been made.

In the short grass areas and where cultivation is confined to annual crops such as millets, pulses, groundnuts and cotton, the recognised form of protection is by grass strips three yards wide on the contour and at thirty-five yard intervals. Most of the cropped land in Teso District is protected in this way and in recent years this has been extended to the plains of Mbale District and to parts of Lango. West Nile and Karamoja Districts, which previously were backward in the adoption of soil conservation methods, made considerable progress during the year and continuous strips across the slopes of the hills are now frequently to be seen.

Maintenance of both fertility and the crumb structure of the soil play an important part in preventing soil wash and to this end efforts were directed to induce farmers to rest their land sufficiently. In the more sparsely populated areas little difficulty is experienced in this respect, but where the population is dense, particularly near townships, an adequate period of rest under grass is difficult to attain. In such areas stock manure and household refuse as well as township compost and coffee husks are being increasingly used, particularly on plantain gardens and coffee plots. Field officers have continually stressed the value of grass as a crop, not only for rotational purposes, but also to meet the need for improving the carrying capacity of the grazing available to support an increasing cattle population. The general attitude of the African farmer to the care of grass in the rotation is changing slowly, although in the recognised grazing regions, the periodic closing of certain areas has been accepted by some African Local Governments and a system of rotational grazing is practised. In this connection an

improvement in the distribution of water supplies is essential and the Geological Department has proceeded with its plans for the construction of further dams and equipping the additional bore-holes which have been sunk. In Karamoja a technique for controlling the number of cattle using each dam and the surrounding grazing has been evolved, and put into practice.

As has been the case in previous years, full use of County and sub-County competitions was made to maintain interest in soil conservation methods and a number of these were held in the districts. In addition demonstrations at missions, schools and at Administrative Centres all played their part in keeping the need for adequate protection of the soil in the minds of the people.

Soils and Manures

The fundamental importance not only of preventing the deterioration of our soils but also of maintaining and improving their fertility status needs no emphasis in this Report. Steps taken by the Department to deal with these matters may be briefly classified as follows:—

(*a*) basically, to ensure that farmers adopt practical anti-erosion measures to preserve the surface soil, and

(*b*) to encourage sound systems of farming, including the integration of both crop and animal husbandry, so that the fertility status of the soil may be improved and the productivity of the land thereby increased.

In addition to encouraging the use of organic manures, investigations were continued concerning the application of artificial or inorganic fertilisers to various known soil types. So far, however, responses to applications of phosphatic fertilisers have, generally, been disappointing although interesting and encouraging results have been obtained from applications of sulphate of ammonia (nitrogen) to several crops, notably maize. It is conceded, however, that 1951 was generally a wet year and this has undoubtedly been partly responsible for the impressive effects of sulphate of ammonia dressings.

The work on the effect of various legumes, grasses and root crops on crumb structure has continued. A statistical analysis of the percentage of water stable crumbs greater than $\frac{1}{2}$ mm. showed a very significantly higher structure under grasses than under either legumes or roots. Leguminous crops were significantly better than roots in the same respect.

At Serere the large fertility experiment continues to provide evidence of the value of farmyard manure and the importance of an adequate resting period.

Animal Husbandry

The work being undertaken in connection with farm livestock has as its main aim the linking of stock with arable farming, but at the same time in an endeavour to place stock, and particularly cattle, in the right perspective and to show their real worth to the farmer, successful efforts are being made to improve the productivity of local livestock. To this

end the Agricultural and the Veterinary Departments work in close co-operation with one another and also with the Husbandry Committee which comprises certain officers of both Departments.

It is unfortunate that a large proportion of farmers still pay too little attention to the position of livestock in their farming economy. Nevertheless there exists a small select minority who care for their animals properly and who use manure on their arable land. The Department has made vigorous efforts to assist these men, for it is through their success that further progress may be expected.

At all major experiment stations the livestock breeding and management policies as recommended by the Husbandry Committee have been carefully adhered to and further information on the performance of herds of Zebu cattle kept under different systems was obtained.

At Serere, in addition to the two existing herds, a third milking herd consisting of fair to mediocre cows with a good bull was inaugurated. This herd will be milked once daily in the morning and the calves will be permitted to run with their dams during the day. As such a system is encouraged in many parts of the Protectorate and is easily practised by the African stock owner, it will be compared with the other management methods practised at Serere, particularly as regards the rearing of calves. At this station the system of pail feeding calves continued, but a considerably more generous ration of whole milk was adopted with very favourable results in the live weight gains. The inclusion of a mineral mixture in the milk is now standard practice, while all milk rations are diluted with one third water. A bull calf provided a Serere record, weighing 372 lbs. at twelve months old.

In the Northern Province work on the systematic improvement of livestock and investigation of problems connected with the management of animals continued at Ngetta and Moroto, while similar work was begun at Abi in West Nile where a foundation herd is being built up.

In Kigezi the general improvement in the standard of animal husbandry continued during the year and progress was made, especially in Buhara where a notable advance occurred in the improvement of kraals, the planting of grass leys, supplementary feeding and the use of bedding for the production of manure.

Pasture Work

The integration of stock keeping into the farming system has been mentioned in the previous section and an essential requirement in this respect is the improvement of the stock carrying capacity of the resting land. Over wide areas of the Protectorate the economic pressure on the land, of both human population and livestock, is not yet so serious as to impress on cultivators and stock owners the need for better grazing. For this reason progress in respect of improved pastures has been confined to the more enlightened farmers in the areas where stock and human population are greatest, and also in the Livestock Improvement Areas where more individual attention has been given to this aspect of livestock management. As an example, in Kigezi the interest of the

people has been aroused and during the year a number of temporary leys were seeded down to a mixture of grasses with and without wild white clover.

In anticipation of the time when there will exist a much clearer appreciation by farmers of the correct way of utilising resting land, the work of the Department on pastures has been largely devoted to trials connected with the establishment and management of temporary leys, and to investigations concerning the management of permanent grazing. At Serere, for instance, ley management occupies an ever-increasing part in the experimental programme, and at this Station leys seeded with *Chloris gayana* produce a good stand and are ready for grazing within a few months. It is also interesting to record that this grass responded well to applications of superphosphate and sulphate of ammonia in terms of the bulk of green grass produced. In addition the carrying capacity of various pastures was recorded and further observations were made on the effects of both rotational and deferred grazing on permanent (rough) pasture.

In Karamoja, where the dry season is more pronounced than in other parts of the Protectorate, a large scale trial was initiated to determine the carrying capacity of the dry weather grazing areas under both rotational and continuous grazing and by comparing grass burning with no burning. The trials in connection with the eradication of *Acacia* scrub continued and where stumping and burning are combined complete eradication is being obtained. This method is scarcely economic and it is hoped that a technique of bush suppression by fire combined with grazing will be evolved. It is still too premature to report definite results but there are indications, both in Karamoja and Lango, that the persistent controlled use of fire in unstumped bush may result in the suppression of *Acacia* species and an improvement in the grazing.

Irrigation

The use of irrigation, except on a minor scale for the production of vegetables, is confined to Karamoja District where a scheme for the use of flood waters has been in operation for the past three years. At the Ngiminito and Nadunget centres the total area under crops was increased during the year to 45 and 15 acres respectively compared with 16 and 3 acres respectively in 1950. As the system was completely strange to the Karamojong when it was introduced this rate of progress is regarded as very satisfactory and it is gratifying to note that at Ngiminito the demand for fields which may be irrigated has exceeded the supply. The greater part of the area now capable of being irrigated has been handed over to the African Local Government for leasing to cultivators on a share cropping basis.

At both centres, however, a few fields have been retained by the Department for investigating further the technique of applying water, including the depth and number of the floodings required, and for trials with various crops, rotations and the time of planting. On the trial plots a very high yield of cotton was expected but harvesting was not complete by the end of the year. The sorghum varieties L.1 and L.28 produced respectively 1,557 lbs. and 1,341 lbs. of threshed grain per acre.

Groundnuts yielded 900 lb. of unshelled nuts per acre and were followed by a second crop of sorghum which, despite severe damage by birds, produced a fair yield. Yields of finger millet and pigeon peas were good.

At Namalu the use of river water irrigation on a small Departmental farm was investigated further and the irrigated area was increased to 15 acres. Yields of all crops were once again very satisfactory, but as yet no Karamojong cultivator has entered the scheme.

Agricultural Education

Serere

During the year some 695 persons of various categories passed through the Serere Training Centre. This figure is somewhat below that of last year owing to the fact that it was essential to use some of the dormitories in the Educational Centre for accommodating immigrant labour during the acute shortage of local labour. The courses were of the usual nature and, as in the past, all candidates enjoyed themselves and were interested in their work.

The short courses for chiefs and cultivators continued to prove attractive and some 94 persons from Busoga and 107 persons from Teso visited Serere for a week. It is hoped to convert two dormitories into a series of cubicles to permit more wives to accompany their husbands.

The usual one-year apprentice course for future Grade VIII Assistant Instructors was attended by 21 students. The majority of these possessed the Junior Secondary Three Leaving Certificate and consequently there was a considerable improvement in the ability and educational standard of the class as a whole.

Twenty-four chiefs attending the Local Government Training Centre at Bukalasa spent eight weeks at Serere and followed a course especially designed for their particular needs.

Three third-year Makerere students and one fifth-year student completed one year of practical work at Serere and the Station was glad to welcome Mr. Mochochoko, an Assistant Agricultural Officer from Basutoland, who spent some four months there studying soil fertility problems.

Bukalasa

Nine official and one private student attended the Apprentices course at Bukalasa. Nine of the students completed the course. Eleven trainees from the Mbarara Teachers' Training Centre attended a ten day course in November. Twenty-four chiefs attended the course for African Local Government Training which started at Bukalasa on 2nd April, and during their stay there they attended lectures on agriculture and talks on the farm.

Ngetta

Elementary courses were arranged during the year and were attended by a total of 310 people comprising chiefs, clan leaders, council members, supervisors, teachers and cultivators.

General

In addition to the courses described above, a number of short courses were held at many centres including County Headquarters and demonstration farms. Such courses appear popular and undoubtedly

improve the agricultural knowledge of those attending, particularly when they can be followed up later by personal visits to their holdings. In Buganda, and particularly in South and East Mengo, a series of lectures was given at 45 Sub-county Headquarters on "How to increase the yields per acre of Food and Cash Crops." These gatherings were very well attended and they were followed up by repetitions by Assistant Agricultural Officers at the smaller Administrative Headquarters. The lectures were very comprehensive and included such aspects as the economic necessity for increasing crop yields, water and soil conservation, seed selection, spacing and weeding, the use of manure and mulch and methods of dealing with pests and diseases.

In addition to the use of agricultural courses and lectures attention is given to the care of school gardens to ensure that they provide demonstrations of sound agricultural practices. The Gulu Farm School was started in 1951 and had an extremely successful year under the very able and hard working Principal. Similar schools are planned for other centres in the Northern Province. A number of Agricultural Shield competitions were also held in many parts of the Protectorate and the interest shown in them has been most encouraging.

Pests and Diseases

No swarms of true locusts entered Uganda during 1951 but the so-called "Kagera Dwarf Locust" (*Faureia milanjica*) continued to be active in the drier, short grass regions of Ankole and Kigezi and caused some damage to sorghum and finger millet. The abnormally wet weather was a factor in controlling breeding as many of the low-lying flat sandy areas, which this insect selects for egg-laying, were waterlogged from time to time and indeed were sometimes under water.

Pasmo disease (*Sphaerella linorum*) continued to cause serious damage to the Kigezi flax crop. Attempts are being made to control this disease, firstly by endeavouring to obtain a suitable Pasmo-resistant variety and secondly by seed-dressing and field sanitation methods.

Eelworm (*Heterodera Spp.*) continued to be a major pest of tobacco in Bunyoro and in order to combat this pest experiments are being carried out with soil fumigants. The problem, however, is not easy of solution.

None of the cotton pests or diseases was severe in its occurrence. Lygus did some damage to early planted cotton in Teso and Mbale Districts and Blackarm caused some boll shedding late in the year in Eastern Province. During the last quarter of the year when rainfall was much above the average, boll rots caused some loss of crop but in the aggregate were not serious. Banana weevil was prevalent in all the plantain areas of Buganda and Eastern Provinces, and *Antestia* showed signs of increasing on Arabica coffee in the higher areas of Bugishu. Insofar as the Banana weevil is concerned an attempt was made to introduce a consignment of predatory beetles by air from Australia with a view to controlling this pest biologically but unfortunately the beetles were dead on arrival in Uganda.

Experiment Stations

The main programme of experimental work undertaken by the Department is developed initially at the two first-order stations at

Kawanda and Serere, which cover the two major extremes of soil and climate in Uganda. Kawanda serves the Elephant grass/rain forest ecological zone, and Serere is typical of the scattered tree/short grass areas. In addition to these two main stations, on which are based the specialist officers of the Botanical, Chemical and Entomological Sections, there are a number of second-order stations to cover the intermediate conditions of soil and climate. The work at these latter stations is planned by the specialist staff at Kawanda and undertaken by the officer-in-charge of the district concerned. In districts possessing no second-order station, minor investigational work is undertaken on the district Department farm.

Development of Mechanical Cultivation

Investigations into the application of mechanised farming to African peasant agriculture started in 1949 were continued and have provided much useful data on which to base further plans, while the demand for the services provided by mechanical units has been met, in part, by the provision of additional units in some areas. At the same time it has been necessary to point out to individual farmers and others that these cultivating units cannot be put into the field merely to undertake contract ploughing and harrowing because the work at this stage must be regarded as exploratory and devoted to obtaining information on the difficulties involved, and whether or not the new conception is likely to be an economic success. Accordingly the work in Uganda on mechanical cultivation is being dealt with under the following broad headings:—

(*a*) Economic Conditions;
(*b*) Machinery Testing and Agronomy;
(*c*) Staff Training;
(*d*) Development Schemes in Uninhabited Country;
(*e*) Development Schemes in Settled Areas.

Economic Conditions

It would be true to say that in 1951 Uganda enjoyed a period of agricultural prosperity such as had never before been experienced. A rise in the price paid to growers of raw cotton from Shs. 33 per 100 lb. in the 1949/50 season to Shs. 45 in 1950/51, of Robusta Kiboko coffee from Shs. 40 to Shs. 50 and of maize from Shs. 10 to Shs. 14 per bag were perhaps the most notable amongst the increases in price of nearly every crop.

But farmers' costs also increased, although to a lesser extent than the receipts. Wages advanced in almost direct proportion to the 20% increase in Government rates, and prices for farm machinery and tractors also rose by about the same amount. A fair reflection of the increase in fuel and oil prices is seen in the increase in the Kampala retail price of petrol by 18%. However, an increase of 20% in farming costs was more than offset by a rise of 40% in receipts.

Farmers have also been able to obtain credit for capital improvements through the Uganda Credit and Savings Bank and the Secretary's report for the year shows that 309 loans for Shs. 892,790 had been

given for development of land and cultivation by the end of 1951. Nearly all of these loans were made to farmers in Buganda against the security of mailo land. Extension and improvements of coffee and banana gardens were the most frequent purposes of loans, but about ten loans were made for the purchase of agricultural tractors and machinery, and a much larger number for purchase of motor transport, erection of coffee drying floors, produce stores and other capital improvements. A number of loans were made to assist farmers to hire machinery.

MACHINERY TESTING AND AGRONOMY

(1) *Supply.*—The supply of light tractors and implements suitable for use in Uganda improved considerably during 1951, and although spare part stocks held by local manufacturers' agents are still poor, they are better than they were, and several manufacturers are now taking a keen interest in our requirements.

(2) *Machinery Performance.*—Detailed performance figures for various tractors and implements were recorded during 1951 from the contract schemes, Government experiment farms, the Development Farms in Bunyoro and Busoga, the Empire Cotton Growing Station at Namulonge and the Veterinary Research Stations at Entebbe and Mbarara and the assistance of the officers concerned in producing these records is much appreciated. Though minor differences occur which make detailed comparisons between records of doubtful validity, the general picture as shown below is now fairly clear.

(*a*) *Land Clearing.*—In the scattered tree grasslands of northern and eastern Uganda typified by the *Combretum-Hyparrhenia* combinations, tree densities in areas which require clearing usually run at 100 to 300 trees per acre, and here the most efficient method of clearing tested so far is by means of hand labour supplemented by hand winches. On the Bunyoro Agricultural Company's Farm at Kigumba a team of six men can uproot 40 trees per day although certain species are liable to snap off at ground level and require special treatment. Similar conditions are encountered in much of northern Buganda, but provided a mounted plough is available rooting is not necessary on this class of land. It is interesting to record that African Local Governments in Lango, Teso and Acholi have placed orders for hand winches to supplement stocks held by this Department, and are proposing to lend them to farmers for bush clearing.

Where high supervision charges make rapid clearing essential the D.4 Caterpillar with hydraulically controlled bulldozer has proved a promising implement, though it is more expensive than hand labour.

In the tropical rain forest zone of Busoga which contains patches of thicket and occasional very large tress, it has been found on the Busoga Farms that clearing by hand alone is excessively slow. Hand winching is probably the cheapest method of felling even the largest trees, but a high powered tractor, such as the D.8 Caterpillar with bulldozer, is required for removal of the larger trees after felling, and for rooting before ploughing.

It may be said that lack of labour and lack of energy for bush clearing are important reasons for reducing the rate at which unoccupied land can be cleared for cultivation in all parts of Uganda.

(*b*) *Land Preparation.*—In the heaviest clay soils of Buganda and Busoga a medium-heavy tracklaying tractor is still the most efficient ploughing outfit, though it is only suitable for use on farms containing several hundred acres under cultivation. At Namulonge a heavy mouldboard plough has been used satisfactorily for first ploughing; elsewhere disc ploughs have been used, and have given good performance on small farms.

Satisfactory second preparation has been done with disc tillers on farm work in Buganda and Busoga and on both contract and farm work in Teso, but the only implement tried so far on contract work in Buganda for the second operation of land preparation is a rotavator. The land is frequently wet when this work is done and the fact that the rotavator is attached to the power take-off tends to prevent sticking.

(*c*) *Planting.*—Cotton and maize have been planted satisfactorily with both mounted and trailer planters, but as the minimum row width on these planters is 28 inches, they are not so suitable for groundnuts, beans, soya beans and such crops. A prototype planter has, however, recently been received with a minimum width of 18 inches, and this should be more suitable. The "Bean" seeder has been used successfully at Busoga Farms for sowing *Eleusine* in 12 and 13 inch rows while an Albion drill was used for this purpose at Serere with equal success.

(*d*) *Weeding.*—No satisfactory inter-row weeders have yet been obtained for cotton and maize, but a trial at Kawanda showed that machine weeding only saved 5 men-days per acre and attempts to obtain more efficient weeders are being made. Though many Buganda farmers have purchased rotary hoes for weeding coffee, few of them have managed to keep these machines in operation for any length of time.

(*e*) *Ridging.*—Ridgers mounted on the toolbars of light tractors have been used successfully at Namulonge, Kawanda, Busoga Farms and on contract work, and a heavy subsoiler body with ridgers has proved successful under very difficult conditions on Busoga Farms.

(*f*) *Harvesting Equipment.*—*Eleusine* or finger millet has been satisfactorily combined on Busoga Farms, but there and in Bunyoro, the combining of sunflowers in the field has not been successful, owing to lack of sufficiently sustained dry weather to dry out the stalks completely and also the need to harvest before the birds take the grain. Similar results were obtained with sorghum on Busoga Farms although the combine has been useful as a movable thresher for dealing with the crop after cutting and drying.

Various methods of mechanical harvesting of sweet potatoes, tried at Busoga Farms, have not yet been successful.

(*g*) *Grass Cutting Equipment.*—Various implements were tried out on farms for the disposal of grass before ploughing, but no type of hay mower used so far has been sufficiently robust for this work. At Namulonge disc harrows have been used but where practicable there can be no doubt that burning is the best method.

(3) *The Effect of Mechanisation on Cropping Practices.*—It is becoming increasingly clear that the use of machinery to obtain greater production per man-day worked cannot readily be fitted into the existing

cropping rotations of Uganda, although machinery can be used to increase the acreage of crops which make heavy demands on labour, such as cotton and coffee. An analysis of work done in Teso and Buganda during the 1950–51 season tends to show that farmers who had hired tractors grew rather more cotton than those who relied entirely upon either oxen or hand labour. In certain circumstances tractors have also increased yield per acre, and although a survey in Teso in 1950–51 showed that mechanical cultivation had no effect on yield, it was apparent that in 1951 in at least two areas in Buganda and one in Lango, early and thorough land preparation was undoubtedly responsible for exceptionally high cotton yields. In one area in Lango, clear evidence was obtained regarding the tendency for large fields of cotton to suffer more severely from *Lygus* damage than neighbouring small plots. This problems is, however, receiving the attention of the Entomological Section but wherever *Lygus* is likely to be severe, provison for insecticidal protection is likely to be essential when cotton is grown in large blocks.

In some areas where mechanisation is being adopted, farmers are tending to change over from traditional cropping practices to the growing of crops which require little labour. For instance many of the larger Buganda farmers are concentrating on crops such as maize and sorghum which can be grown with little weeding provided land is clean at the time of planting. In addition they now tend to grow one crop per year only, because when two crops are grown annually, clean seed bed preparation for the second crop is not normally possible without a late weeding of the first.

In addition to changes in cropping sequences, it is now apparent that mechanisation requires changes in methods of growing established crops. For example on Busoga Farms it has been found that *Eleusine* for combining must be of one strain; fields of mixed varieties, which are preferred by peasant farmers, are not suited to mechanisation because they grow and ripen unevenly, and this applies to many crops. Fortunately the Botanical Section of the Department has already selected and tried out most of the common varieties and strains of all widely grown crops, and is now in a position to supply seed together with information about its behaviour and cropping capacity. Accordingly development farms have used such selected types of seed of beans, sorghum, *Eleusine,* cassava, sweet potatoes, soya beans and cotton. In the case of cotton, however, an attempt was made on both the Busoga Farms and the Bunyoro Agricultural Company's farm to grow S.47 strains planted fairly late in order to produce an upright compact growth habit, which might be expected to make harvesting cheap, but unfortunately heavy and prolonged late rains made both weeding and harvesting exceptionally expensive.

From the crop spacing and yield aspect it is evident that inter-row weeding by machinery can only be carried out satisfactorily if the rows are reasonably wide apart and experimental work has been commenced in order to discover what reduction in yield, if any, is produced by planting groundnuts in rows wider apart than normal but with a dense spacing in the rows. Similar work will require to be undertaken with other crops.

(4) *Farm Layout and Management.*—The Busoga and Bunyoro Farms together with several contract schemes are beginning to provide useful information on the relative efficiency of various types of farm layout, and it is becoming apparent that certain forms of strip cropping which are most efficient in preventing soil erosion are difficult to manage in large mechanically operated units, and cause a heavy waste of tractor time. On the other hand designs which include large areas under uniform cropping are proving popular, and on these soil erosion can be controlled in most cases by the use of judiciously spaced grass strips.

STAFF TRAINING

The Department fully recognises the need for a Farm Institute to train among others assistant farm managers, but unfortunately owing mainly to shortage of staff it has so far been unable to open one. Some training of this nature has, however, been given at Serere and Kawanda, and the Bunyoro Agricultural Company has also assisted by giving training in land clearing, but several learners, who have been engaged for specific posts, have been compelled to learn what they can as they work—an unsatisfactory type of training which leads to a great deal of wasted effort and excessive expenditure.

There can be no doubt that careless and inefficient work by drivers is an extremely important, if not the most important, reason for the relatively poor performance of tractors belonging to Government schemes and to the majority of private farmers in Uganda. A system of apprenticeship is considered the best training for tractor drivers, and that satisfactory drivers can be trained is proved by the few men who take care of their machinery and are prepared to work hard during the most busy periods of the agricultural calendar. Such men, unfortunately, are rare.

An analysis of the costings figures shows that supervision, mechanics' time and drivers' time account for a very considerable proportion of the total cultivation costs. The average farmer in Great Britain, for instance, carries out most of this work himself so that such costs therefore make up part of his profits. The average African farmer, on the other hand, who has purchased a tractor, expects to employ a driver to run it, has to employ mechanics whenever anything goes wrong with it, and has little idea as to what the tractor can or cannot do. Whilst this position persists, the use of machinery must remain extremely expensive and wasteful.

DEVELOPMENT SCHEMES IN UNINHABITED COUNTRY

(*a*) *Busoga Farms, Bunya.*—This farm had a difficult year owing to exceptionally heavy rainfall, entailing long periods when machinery was unable to work, and making the costs of all operations high. These difficulties have emphasised the fact that the mechanisation of annual crop farming presents greater problems in areas of heavy soils with well distributed rainfall than on light soils with pronounced dry seasons where ease of working may well counterbalance any lower yields per acre.

Busoga Farms was started primarily to produce bulk food for Jinja, but experience has now shown that normal local sources will supply ample food for Jinja, and the main objectives of the Farms have accordingly been changed. Studies of farm management under mechanised

conditions are now the primary objective, though the farm organisation is such that the policy can quickly be changed back to bulk food production if necessary.

At Government's request, an attempt was made in 1951 to grow vegetables for the Jinja market, but as this venture required proportionately too much detailed supervision and was found to be unsuited to a large mechanised farm, the project has been abandoned.

During the year trials were conducted to ascertain whether or not rice can be grown successfully in the swamps which make up a considerable proportion of the land allocated for the Farms' use. Though early growth of the paddy was good, and ample water was available in the event no seed formed in the ears and no crop was harvested. The reasons for this are not clearly understood, but a disease complex is believed to have been responsible for the failure and further investigations are proceeding.

Although the Farms are in a tsetse area it was considered advisable to introduce, for observational and investigational purposes, a small herd of cattle which is inoculated once a month with antrycide. Of the animals which have been treated regularly only one death has so far occurred, but milk yields have been low, growth rates have been slow and the evidence available to date suggests that cattle will survive under these conditions but will not thrive. The small flock of sheep purchased in 1950 has done well and was enlarged during the year.

Cotton and sweet potatoes can be expected to show profits, but both these crops require much hand labour, and acreages grown cannot be large. Sweet potatoes, being a perishable crop, also require much supervision and labour and in addition entail a very heavy cost of transport, which must be available to make regular market deliveries two or three times a week. Because of the low market price for beans only sufficient are grown for the Farms' labour requirements, and cassava is only grown for stock feed. Maize promises to be a profitable crop with the recent price increase, while sunnhemp is being grown to fill the local demand from sugar estates for seed for use as a green manure. *Eleusine,* sorghum and sunflowers have proved useful crops and soya beans may also prove profitable. Groundnuts grow well, and most cultural operations can be mechanised, but the present controlled price may be too low to pay for mechanisation.

The Farms' balance sheet for 1951 shows that a loss of approximately £14,500 was made on the year's running. This is made up of £10,750 under supervision, administrative and depreciation charges and £3,750 under farm running costs. It should, however, be mentioned that it would be more proper to regard a substantial proportion of the supervisory and administration charges as a Capital Charge since a large amount of the expenditure incurred under this head has in fact been expended not only on normal development but also on felling, clearing and stumping the land and on bringing it into a condition fit for cultivation. Approximately 250 acres were under crops in 1951 (excluding rice land and other swamp land) but a further 200 acres were prepared for cropping in the early rains of 1952, and another 160 acres were

cleared or partially cleared from bush. The supervision now available is estimated to be sufficient to farm 2,500 acres with 1,500 acres under crops but although the cultivated acreage on the Farms is much less than this the present degree of supervision is necessary for the progressive clearing of land and for general development. Receipts from crops were not expected to cover any considerable proportion of supervision costs in 1951, but the loss on the actual farm running was higher than had been expected. This was due mainly to high operating costs caused partly by excessively wet and unfavourable weather conditions, and also to low crop yields which in many cases were attributable to poor stands and poor growth of crops especially where they were grown on new or "first year" land. In this connection it should be mentioned that excessive yet unavoidable exposure of sub-soil during tree felling and stumping, combined with frequency of rocks, roots and stumps after clearing, made it difficult to obtain a satisfactory seed bed and a good crop stand on new fields. Techniques adopted in the second rains of 1951, however, showed considerable improvement over those adopted previously, and there are good grounds for believing that farming results will be more satisfactory in 1952.

(*b*) *Bunyoro Agricultural Company, Limited.*—The opening up of this farm, at Kigumba in Bunyoro, was commenced in October, 1950, and work during 1951 was directed towards the further clearing of land, the erection of staff quarters, labour lines, stores and offices and the growing of small areas of flue-cured tobacco and other crops for trial purposes. Approximately 80 acres were cropped in the second rains of 1951 and 280 acres will be ready for cropping in the first rains of 1952.

Two tobacco barns were erected for dealing with the tobacco crop grown in the first rains of 1951; the crop yielded approximately 400 lb. of cured leaf per acre and was sold at an average price slightly in excess of Shs. 2 per pound. Thus the results were sufficiently promising to justify planning for a considerable expansion in the acreage to be planted to tobacco in the spring rains of 1952.

A small acreage of tobacco was also grown in the 1951 autumn rains, but this was severely damaged by hail and difficulties were also experienced in the curing and the handling of the crop during the dry weather in December and January. Meanwhile, therefore, additional experience will be required before a decision can be made as to whether the growing of tobacco in the second rains is justified as a routine policy.

As was to be expected, both agronomic and curing difficulties were encountered but the experience gained in the production of the 1951 crop will be of great assistance, especially as regards the economics of the crop in 1952 and future years.

Flue-cured tobacco makes large demands on labour for both field work and barn work, and it is considered improbable that sufficient labour will be available to grow more than 200 acres as an estate crop. Therefore any expansion over and above this acreage will depend upon the success in getting tenant farmers to grow this crop under the Company's supervision.

As regards other crops, a useful harvest of maize was secured, but both the cotton and the sunflower crops suffered severe damage from a hail storm shortly before harvest. In any event from experience

gained it is unlikely that any large area of cotton will be grown as a commercial estate crop owing to its heavy labour requirements coming at a time which seriously conflicts with other and more important farm work. The land which was opened late in 1951 was cropped with tepary beans and sunnhemp.

During the year, labour was less difficult to obtain than had been anticipated and the total number of employees at the end of the year was 434 as compared with 160 in January, 1951. A considerable proportion of the labour force now consists of men from the West Nile and Lango who are being encouraged to settle on the farm and although output is still low, considerable attention has been paid to labour management with encouraging results.

Bush clearing early in 1951 was carried out by hand labour supplemented by hand winches only, but later during the year this work was supplemented with a D.4 Caterpillar tractor with a hydraulic bulldozer. Relative fields costs up to the end of September were estimated at Shs. 118 per acre for hand clearing and Shs. 149 per acre for clearing with the tractor. These figures exclude first ploughing which cost Shs. 132 per acre.

Development Schemes in Settled Areas

During the year the Special Development Section of the Department has continued to operate the investigational contract schemes under which tractors and implements are hired as working units to African farmers. The work entails not only the actual running of these mechanised units but also the keeping, compiling and analysing of all records relating to the schemes. Insofar as these development projects themselves are concerned, they fall into two main categories: —

(*a*) those in areas which are already populated to a greater or lesser degree and which are cultivated and utilised under traditional farming systems. This category is further divided into two distinct subtypes as follows.—

(i) those in moderately to heavily populated areas where there is a preponderance of permanent crops, and

(ii) those in areas where annual crops are grown.

(*b*) those in areas which until recently were unoccupied but into which farmers are now moving.

In all cases the aim is to establish orderly, sound and economic systems of farming which will result in increased productivity both of the land and of the people. Within this policy it is also necessary, in respect of contiguous holdings, to include studies of land lay-out and organisation as well as mechanisation which is considered to be a prerequisite to any successful change from traditional subsistence agriculture to farming systems based on a cash economy.

From experience being gained on projects in areas where there is a preponderance of permanent crops, such as that at Ngogwe, it is clear that existing banana and coffee plantations make reorientation of holdings difficult. On this account progress is slow and neither is it possible to take advantage of full-scale mechanisation.

In the more extensive type of country, where annual crops are mainly grown, it is fortunate that in some areas the clan systems appear more suited to our conception of group development or block farming and land reorganisation and the schemes, for instance, at Alito and Ngai in Lango are developing satisfactorily.

Projects in the areas which are now becoming settled are somewhat similar to those mentioned in the preceding paragraph but in the case of such projects, of which the Ssingo scheme is an example, an endeavour is being made to organise the units as settlement takes place.

Although work now being carried out is still in an experimental phase, sufficient information had been accumulated by the end of 1951 to give a clear indication of costs of mechanical cultivation under a wide range of conditions. Much of the work done has been entirely uneconomic owing to the high supervision charges involved in any experimental work, the scattered nature of the work, the use of machinery not yet well adapted to local conditions and to inexperienced operators. A detailed analysis of cultivation costs has been prepared for various areas of work in Buganda which shows a range of cultivation costs from Shs. 31 to Shs. 50 per acre per operation. This type of information can only be obtained by running a considerable number of tractors under varied conditions but the stage has now been reached where it will be possible to concentrate attention on the more efficient schemes, although it is desirable to emphasize that we have not yet shown that the extensive use of machinery for farm operations is justified in Uganda.

Liaison with African Local Governments

Throughout the Protectorate close liaison was maintained in all matters affecting the growing, harvesting and marketing of crops and the use of land. In Buganda the Agricultural Advisor to the Buganda Government continued to act as the link between the Department and the Ministers who worked closely in accord, while the Agricultural Advisor himself undertook much propaganda and gave lectures and advice. The organisation of the Community Week was left to the County Councils although the Department offered advice and provided instructional staff and material.

In the Eastern Province an Agricultural and Forestry Advisor was appointed during the year to the Busoga African Local Government and the officer chosen was a former Senior African member of the Department. In the organisation of agricultural competitions and shows officers of the African Local Governments and of the Department cooperated closely while the satisfactory spread of mosaic-resistant cassava is a tribute to the energy of the Chiefs who accepted the technical advice offered.

In the Northern Province African Local Governments in most districts have co-operated well in all aspects of agricultural work and Council members are taking an increasing interest and responsibility in farming affairs. In Acholi and Lango, for instance, the Councils are purchasing hand-winches for hiring to cultivators in conjunction with the Department's development projects; in Karamoja the Local Government is assuming responsibility for the developed sections of the

flood-water irrigation schemes, while the Acholi Council is taking a keen interest in the development of the Gulu Farm School.

In introducing bye-laws for controlling soil erosion and grazing and for raising the standard of crop husbandry several District Councils have consented to impose upon themselves respective measures calculated to further agricultural progress.

SECTION II—FOOD CROPS

Eastern Province

Timely arrival of the spring rains together with adequate rainfall during the growing season ensured satisfactory acreages of most food crops. Except in some localities around Lake Kioga, where the mid-season drought affected crops, and in the higher parts of Bugishu where rainfall was excessive, satisfactory yields were obtained and in the case of finger millet, which is the staple crop, they were well above average. Both root crops and plantains flourished in the wet conditions obtaining and supplies were more than adequate for internal needs. Beans were planted on a considerable scale, but the rainfall was excessive for this crop and yields were poor.

The *Eleusine* acreage planted in Teso District, which declined in 1950, rose by 50,000 acres and was slightly greater than the mean for the previous five-year period. An average yield was obtained in spite of the dry spell which occurred in June. The root acreage planted in this District was slightly below the 1950 figure, but was nevertheless satisfactory and yields per acre were above average.

In Busoga favourable planting conditions ensured the achievement of a bigger acreage of *Eleusine* and little re-sowing was necessary. Yields of this crop were about average and as root crops and bananas flourished the food position remained good throughout the year.

Distribution of planting material of mosaic-resistant varieties of cassava continued in Mbale and Teso Districts and further excellent progress was made. In most instances growers have co-operated well in the campaign to eradicate types susceptible to the disease but where the latter are popular on account of their palatability some difficulty was experienced. Conservatism in this respect is very understandable; nevertheless several resistant varieties are increasing in popularity.

Northern Province

Food supplies were adequate throughout the Province with the exception of Karamoja, where some importation of maize meal was necessary, and local minor deficiencies were met by internal movements of foodstuffs. The increased acreage of cotton planted in recent years is in itself responsible for a larger area under food crops, for *Eleusine*, which is the staple food, invariably follows cotton in the rotation.

In the spring rains planting of food crops was carried out under favourable climatic conditions but the subsequent dry spell in June and July adversely affected yields in some areas and the *Eleusine* harvest was only average. The sorghum acreage of 183,447 acres was approximately the same as in 1950 whilst the area under mixed beans increased by

about 20,000 acres to a total of 101,566 acres. The acreage under pigeon peas remained fairly constant at 212,682 acres and yields were above average. The acreage of root crops planted during the year was somewhat less than in 1950 but as an offset a proportion of the previous year's plantings had not been used and were still in the ground and swamp fringe planting of sweet potatoes was undertaken on a considerable scale towards the end of the year. The acreage of cassava actually planted in 1951 per tax payer varied between an average of $\frac{1}{2}$ acre in Acholi to $1\frac{1}{2}$ acres in West Nile District. Cultivators, particularly in the backward areas, have shown a greater interest in this crop and the campaign to establish distribution centres for mosaic-resistant varieties at most sub-county headquarters was successful.

Western Province

With the exception of the requirements of estate labour, particularly in Toro District, food supplies throughout the Province were adequate. In Toro further attention was paid to increased food production to meet the demands of the tea estates and Kilembe mine as well as the internal needs of the people. Some success was achieved with mixed beans and a considerable increase in the acreage of this crop was planted, but little interest in maize growing was evident.

In Kigezi District the acreage planted to all the more important food crops once more showed an increase over that of the previous year. The greatest increase was in respect of sorghum, the acreage of which was 43,000 acres greater than in 1950 and the crop was the best for several years. Food supplies were adequate and no serious shortages occurred. Nevertheless the ban on export of foodstuffs from this district, which has been in force since 1943, continues to be necessary, although undoubtedly a substantial quantity of peas leaves Kigezi illicitly in spite of this restriction. Better land utilisation in this district and also the re-settlement scheme have assisted in the maintenance of adequate food supplies.

Taking the province as a whole there were substantial increases in the acreages planted to sorghum and *Eleusine* which totalled 201,631 acres and 123,162 acres respectively. The mixed bean acreage at 94,714 acres was slightly less than in 1950, while the total acreage of root crops was approximately the same as that planted in the previous year. The issue of mosaic-resistant types of cassava was re-organised where necessary and some progress was made in persuading cultivators to replace susceptible types by the new varieties.

Buganda Province

Apart from minor local shortages of plantains in both Masaka and Mubende Districts in the second half of the year, food was generally plentiful. The spring rains were heavy except in Mubende and in the northern areas of Mengo, but the mid-season dry spell was more severe than usual and the planting of food crops was temporarily retarded. Fortunately wet weather during the last quarter of the year permitted this deficiency to be made good and the Province was well provided with adequate foodstuffs at the end of the year. The acreage of plantains was increased slightly during the year and now stands at a little less than half a million acres. Supplies of plantains to Kampala were

maintained and when communications with Bugerere and Masaka were severed by floods, sources nearer at hand supplied the town. Some improvement in the care of banana gardens took place and the practices of both mulching and manuring were more evident. In this respect, however, much greater progress must be made before the fertility of the plantations can be maintained adequately. The maize acreage of 92,161 acres was approximately the same as in 1950 and in addition to the amount consumed green an increasing quantity is now eaten as maize meal, and as groundnuts and beans provide the bulk of the vegetable protein in the diet, the larger proportion of the total production of these crops was consumed within the Province. With the wealth derived from sales of cotton and coffee, consumption of meat is increasing; the demand exceeded the supply and cattle imported from other districts were sold at high prices.

Root crops grew well during the year and although the acreage of sweet potatoes planted was slightly less than in the previous year, supplies of this foodstuff were adequate. Cassava is not particularly popular in Buganda, but in North Mengo and Mubende, where a larger acreage of this crop is most needed as a famine reserve, a substantial area was planted. In these districts the replacement of the old varieties by mosaic-free types has proceeded and clean planting material of the latter was distributed from a number of centres.

Food Crops—Investigational

Bananas.—The poor state of many banana gardens, particularly in the neighbourhood of the major townships, is frequently commented upon, and the blame is usually placed on poor soil or weevil attack (*Cosmopolites sordidus*). An experiment recently concluded at Kawanda has shown that there are very large differences between varieties of bananas in their response to these limitations. Where poor soil and weevil attack cannot be mitigated beyond a certain point this information should be valuable.

The appearance of Banana Wilt disease (*Fusarium oxysporum var. cubense*) in Tanganyika adds a new threat to this crop. All Uganda varieties of bananas have been sent to the infected area in Tanganyika to be tested for immunity or resistance.

Sweet-Potatoes.—The East African Agriculture and Forestry Research Organisation has undertaken to work on the virus diseases of the sweet-potato, and Dr. F. M. L. Sheffield made a valuable survey of the crop in Uganda in November. The collection of sweet-potato varieties maintained at Kawanda was a useful starting point for this work.

Cassava.—The distribution of varieties resistant to mosaic disease was completed in Teso district, and is being pressed forward in other districts. There is little doubt that this work has alleviated the recurrent concern which used to be felt about food shortages. Attention is now being turned from the amount of food available to its quality from a nutritional point of view.

Maize.—The appearance of Rust disease (*Puccinia polysora*) in West Africa as a major epidemic has naturally caused much concern.

At the time of writing this disease has been found in Kenya, but not in Uganda, though it has almost certainly arrived here. East African varieties of maize have already been sent to West Africa to be tested for resistance, but it will now be possible to make these tests in East Africa itself.

Sorghum.—The attempt to adapt local varieties to combine harvesting by introducing the "double-dwarf" gene has encountered the difficulty (which was foreseen) that all introduced material is susceptible to local diseases. Straight selection from the wealth of local "single-dwarf" material is likely to be the more promising line of attack.

Groundnuts.—The work on rosette disease, carried out at Serere in collaboration with Dr. H. H. Storey of the East African Agriculture and Forestry Research Organisation, has established as a fact that close spacing reduces the number of infections per unit area. This is an empirical finding of importance, but the underlying explanation of it is still lacking.

SECTION III—ECONOMIC CROPS

Cotton

The 1950–51 crop amounted to 346,465 bales, which was slightly higher than production in the previous year. Comparative acreage and production statistics are given in Appendix 1 (*a*), and the following table gives a comparison over the past ten seasons:—

COTTON PRODUCTION, 1941–1951

Season	Estimated acreage	Bales of lint (400 lb.)	Average yield per acre	Average price to grower per 100 lb.
				Shs. cts.
1941–42	1,287,256	238,616	245	7 68
1942–43	874,776	112,548	173	12 56
1943–44	1,233,801	191,452	203	13 18
1944–45	1,072,493	272,567	337	14 83
1945–46	1,145,568	227,544	265	16 40
1946–47	1,253,257	231,745	247	18 45
1947–48	1,036,829	170,066	218	20 42
1948–49	1,555,371	391,240	333	29 61
1949–50	1,628,473	339,788	282	31 75
1950–51	1,535,200	346,465	301	43 16

The f.o.b. Mombasa value of the lint from the 1950–51 crop amounted to £28,741,604, compared with £16,697,697 in the previous season. As was the case in 1950, some two-thirds of the crop was sold overseas through the Lint Marketing Board as a bulk sale jointly to the United Kingdom Raw Cotton Commission and the Government of India, the remainder of the crop being sold on the "free market" auctions in Kampala. Prices to growers were increased by Shs. 12 per 100 lb.

of seed cotton, bringing the price to Sh. 45 per 100 lb. for the variety B.P. 52.

The 1951–52 crop was planted under reasonably favourable conditions, except for a dry spell in July and August which reduced to some degree the total effective acreage planted. The abnormally wet weather during the last quarter of the year caused some boll rotting and loss of the early crop, but final yields were expected to be above average, and at the end of the year the estimate for the season was placed at 352,000 bales. (Note: In the event some 378,00 bales were produced).

Cotton Investigational Work.—During the year seed distribution of the variety S.47 throughout the Northern Province, and the Eastern Province excepting Busoga District, was completed. The area covered by the S.47 seed, whose former crop potential was 90,000 bales, produced 155,000 bales from the 1951 plantings. Of the total some 8,000 bales might be ascribed to seed dressing in Teso District, and a small amount to increased acreage in Acholi District. In general, therefore, it appears that the prognosis of a 60 per cent increase in yield due to this variety was fulfilled.

All seed planted in Teso District was dressed with Perenox, but the planting season was unfavourable and the crops in South Teso and the Segregated Area were smaller than in the previous season, when S.47 was grown for the first time throughout the district, but in North Teso, where the seed was dressed for the first time, the crop was as large as before. In other words the introduction of seed dressing offset the effect of an unfavourable season.

Surveys of blackarm infection in the field showed that the effect of seed dressing in two successive years was progressive; in the first year infection was reduced to one half and in the second year it was reduced to one quarter.

An improved strain numbered BP.52/K51 was released from Kawanda for multiplication in Buganda and the Western Province.

Trials of spraying and dusting young cotton against *Lygus* have continued and it has been proved that a low-volume spray of only 10 gallons per acre controls this pest as effectively as the 50 gallon spray which has hitherto been the more normal volume used for agricultural work. In order to make the spraying of peasants' crops an even greater practicable possibility it is hoped to reduce the volume still lower; to this end active work is continuing on the various types of machines and large scale tests are being planned for 1952. Some success has also attended small trials of low-volume spraying against Cotton Stainers.

The 1951 trials of sprays against cotton *Lygus* were interesting in that spectacular control of the pest was not followed by a comparable increase in yield. The sprayed plots set a large bottom crop and matured quickly, but formed only a small top crop. The unsprayed plots although they were poorer in appearance early in the season, and set a smaller bottom crop, nevertheless continued to produce bolls regularly throughout the season and eventually produced a crop which was in line with that of the sprayed plots. This recovery was aided by

the unusually good late rains but the circumstances and economics of spraying require a great deal of further and careful study.

Coffee

Buganda Province

Robusta.—The season was the best on record and export permits were issued for 34,632 tons of clean coffee, which is some 3,500 tons greater than the previous highest production figure for any year. This quantity represented a cash return of over three million pounds to the cultivators. The high prices paid encouraged growers to pay more attention to better cultural practices, and many acres of neglected coffee were brought into a higher state of production, although much more would have been achieved in this respect if a more plentiful supply of labour had been available. Over a quarter of a million seedlings were sold and an increasing number of individual growers planted their own nurseries. Many growers were persuaded to construct drying tables for the preparation of their crop, and of those without tables, an increasing number dried their cherry on mats. However, the abnormally wet weather at the commencement of the coffee marketing season presented growers with an almost insuperable problem in drying their crop; large quantities of wet cherry or half-dried cherry accumulated in growers' houses and a considerable tonnage could not be picked through shortage of storage space. Whilst growers made much progress in their drying methods, picking was frequently careless and much green cherry was harvested, but nevertheless the crop reached the markets in surprisingly good condition.

The following table shows the amount of coffee of all grades which passed through the curing works annually from 1944 to 1951:—

Buganda Province

African Coffee Production

(*Tons*)

	1944	1945	1946	1947	1948	1949	1950	1951
Cured Coffee ...	11,856	16,085	24,449	17,238	31,142	18,351	26,263	34,632

Eastern Province

Arabica.—Production from the 1950–51 crop in Bugishu District was the second highest in the history of the industry and at 3,896 tons of parchment coffee was only slightly less than the record season of 1939–40. Prices were high and producers received £442,104 for the crop compared with £184,859 in the previous season. Co-operative Societies handled 28·6 per cent of the crop and earned £4,900 in quality premium payments. Prices paid to growers were 20 cents per pound for good quality cherry, and one shilling per pound for good quality parchment.

Comparative figures of parchment production, together with the total crop values to growers for the past ten seasons are as follows:—

BUGISHU ARABICA COFFEE

	Parchment	Estimated Value
	Tons	£
1941–42	3,004	79,256
1942–43	2,264	55,861
1943–44	3,679	105,592
1944–45	2,705	73,740
1945–46	2,817	97,169
1946–47	3,058	107,215
1947–48	2,996	121,692
1948–49	2,857	173,799
1949–50	2,852	184,859
1950–51	3,896	442,104

Although the year was reasonably favourable climatically, the 1951–52 crop was poor. The biennial bearing, characteristic of this crop in Bugishu, was partly responsible for the expectation of only 2,200 tons of parchment. Weeding was neglected on account of the very wet weather and die-back of Kent's *Arabica* at the lower elevations caused much concern. Prices paid were as follows:—

F.A.Q. Parchment	Shs. 1/50 per pound.
F.A.Q. Cherry	30 cents per pound.
Undergrade Parchment ...	90 cents per pound.
Dried Cherry	50 cents per pound.

The premium for bulk deliveries by Co-operative Societies was one and a half cents per pound and the bonus scale for quality was amended to include Grade 2 in the classification, carrying a bonus of fifteen cents per pound. The demand for seedlings was keen, and once more over 1,500,000 transplants were issued.

Robusta.—A total of 53 tons of dried cherry was sold to the curing works. Rather more interest was shown by growers and all the seedlings from ten nurseries were distributed.

WESTERN PROVINCE

Interest in coffee in Ankole, Kigezi and Toro Districts was more evident during the year as growers were encouraged by the higher prices, and the demand for coffee seedlings increased. Total production was less than in the previous year, largely because the Bwamba *Robusta* crop was small, and amounted to 329 tons of *Robusta* and 227 tons of *Arabica*.

NORTHERN PROVINCE

In West Nile District the greater interest which was shown in this crop in 1950 was maintained and seedlings have been in steady demand. Production, as yet, is negligible as few of the trees are in bearing.

Coffee Investigational Work.— Accumulated information on what is believed may be a virus disease of coffee will be published in the Record of Investigations No. 3. The well marked resistance of certain varieties

to this condition is encouraging. Cultural investigations concerning *Robusta* and *Arabica* coffees continue to be carried out at Kawanda and Bugusege respectively and at the latter station coffee breeding work is progressing in an endeavour to obtain a more satisfactory type of tree for the lower areas.

Tobacco

Fire-Cured

The revival of interest in the Bunyoro tobacco crop stimulated in 1950 was not maintained in 1951, despite a twenty cents per pound increase in the price of Grade I leaf. This crop is at present unpopular with the Banyoro because it is unfortunately considered by them to provide an inadequate cash return in comparison with cotton, and in addition it has a high labour requirement. This attitude was reflected not only in a reduction in the acreage planted by some 2,500 acres, but also in the general care of nurseries and tobacco fields. Although weather conditions were unfavourable at the time of transplanting, the crop made reasonable growth; eelworm infestation was about normal and hail damage less than usual. The quality of the leaf was fair and an average yield of 434 pounds per acre exceeded expectations. The quantity of leaf marketed totalled 1,299,167 pounds.

In Mubende District 672 acres of the "Heavy Western" variety were planted. Drought conditions in the nursery stage and during the growing period reduced yields and excessive rain interfered with curing and marketing. Total production amounted to 345,285 pounds of cured leaf of which 83.6 per cent was purchased as Grade I.

Air-Cured

In selected areas of Mubende District the "Heavy Western" variety was also grown for air-curing and only 505 acres were planted as compared with 769 acres in 1950. The yield was low and the total quantity sold amounted to 185,872 pounds only.

In West Nile the acreage was increased from 680 acres in 1950 to 704 acres in the year under review; growing conditions were good and the crop averaged 477 pounds per acre compared with 274 pounds in 1950. The total quantity of cured leaf marketed was 336,350 pounds which represented an increase of 80 per cent over the previous year's figure.

Production of "Jamaica Wrapper" tobacco in Kigezi made some progress and 13,774 pounds from 45 acres were sold for local cheroot manufacture. Good quality leaf was produced from the spring planted crop but the autumn crop suffered some hail damage.

Flue-Cured

The acreage of this type of tobacco in Acholi and West Nile Districts was almost doubled and 1,087 acres were planted of which 572 acres were in West Nile and 515 acres in Acholi. Altogether 2,764,146 pounds of green leaf were purchased in the two districts.

Nicotine Tobacco

Although the price was increased from 14 to 18 cents per pound, production of nicotine tobacco in Kigezi and Ankole again declined. The acreage planted during the year was 2,065 acres and sales of leaf to Messrs. Kigezi Industries, Limited, were just under 900,000 pounds.

Oilseeds

Groundnuts

The large proportion of groundnuts grown for sale is produced in Busoga, and in this district a substantial increase took place in the acreage planted. The 1951 figure was 96,910 acres compared with 68,750 acres in 1950, and the marketable surplus rose from 11,111 tons of kernels in 1950 to 12,811 tons in 1951. Similar crop increases were obtained in other districts of the Eastern Province and the total provincial acreage planted was 266,438 acres, (compared with 185,128 acres in the previous season) from which a marketable surplus of 16,073 tons was sold. The prices paid to growers, based on an f.o.r. Uganda price of Shs. 674 per ton, were about 25 to 26 cents per pound for kernels and 14 to 16 cents per pound for unshelled nuts.

In the Northern Province the acreage of groundnuts increased by slightly less than 10,000 acres to 77,742 acres, but only a negligible surplus was sold. This crop has considerable possibilities of expansion, both for increasing local food supplies and as an economic crop but, as yet, its full value has not been realised by the cultivators. Failure to reserve sufficient seed for planting is a contributory cause to rather slow development.

In Ankole District, although both the acreage and the marketable surplus were somewhat less than in 1950, this economic crop retains its popularity. In spite of unfavourable weather fair yields were obtained. There was increased propaganda regarding improved methods of cultivation, special emphasis being placed on heavier seed rates, the control of rosette disease and interplanting with such crops as maize, cassava, young bananas and coffee.

The acreage in Buganda Province was 47,572 acres and, as is customary, a considerable proportion of the crop was consumed by the growers, only 632 tons being sold.

Cotton Seed

Production of cotton seed from the 1950–51 crop amounted to 128,072 tons, which was utilised as follows: —

	Tons
Exported to the United Kingdom ...	28,254
Allocated to local oil mills for crushing ...	71,649
Distributed to growers for planting ...	23,618
Used as fuel at ginneries	2,995
Used for stockfeed and manure	232
Accidentally burnt and shortfall	1,324
Total ...	128,072

Simsim

The decline in popularity of simsim as an economic crop has continued and the total acreage in the Protectorate decreased from 256,327 acres in 1950 to 197,620 acres in the year under review. The reasons for this unpopularity are low yields in comparison with groundnuts and the proportionately larger requirements of labour in harvesting and preparing the crop for market. In the Eastern and Northern Provinces simsim is still grown quite extensively for home consumption. Recorded sales were some 316 tons only in the whole of the Protectorate.

Shea Butter Nuts

The collectors of this indigenous crop enjoyed a good season and 1,805 tons were sold in Teso, Acholi and Lango Districts at prices ranging from 21 to 27 cents per pound.

Castor Seed

Stimulated by prices ranging from 50 cents to Sh. 1 per pound, the production of castor seed increased enormously during the year. Although no direct encouragement is given to the growing of this crop, many growers in Buganda planted plots to supplement the bushes which normally grow in a semi-wild state near villages. Sales in Buganda and the Western Province amounted to 5,204 tons valued at £437,076, compared with 1,369 tons, valued at £131,872 in 1950. This crop has therefore temporarily assumed an important place in the economy of some cultivators, especially in the Masaka district.

Miscellaneous Oil Seeds

As a valuable by-product of the Kigezi flax industry, some 56 tons of linseed were sold during the year.

Experimental plantings with sunflowers have continued in Kigezi and Ankole, and sales from these districts amounted to 29 tons and 20 tons respectively. In West Nile the crop is increasing in popularity and some 200 tons were marketed compared with 30 tons last year.

Grain Crops

Maize

In Buganda the acreage under maize continued to decline and only some 92,000 acres were planted compared with approximately 94,000 acres in 1950 and 157,000 acres in 1949. The comparative lack of interest shown towards this crop was due in the main to the high prices paid for cotton and coffee; in addition growers felt that because no specific issue of imported maize seed had been made, it was unnecessary to maintain the acreage at previous levels. It should be mentioned, however, that it is now no longer considered necessary to import maize seed annually, and that any mass improvement in the crop can best be effected through local selection. In order to prevent soil deterioration much attention was given to contour planting and to the interplanting of the crop with beans and groundnuts; in addition particular stress was placed on spacing the maize rows wide apart to enable the early planting of cotton to take place after the harvesting of the legumes and before the maize plants had been uprooted. Although the crop grew well yields generally were poor mainly on account of heavy rain at tasselling time

which interfered with the setting of the grain. In the event the recorded marketable surplus was 127,000 bags compared with 223,000 bags in the previous season, but it was suspected that much of the crop was not sold through the normal marketing channels.

In the Eastern Province the maize acreage in Busoga district was increased slightly over that planted in the previous season and totalled 55,504 acres. On the other hand the acreage in Mbale District declined sharply from 79,783 acres in 1950 to 31,373 acres in 1951. As in Buganda, although the crop grew well, excessively wet weather at tasselling time reduced the yields and recorded sales amounted to approximately 80,000 bags compared with 117,000 bags in 1950.

In the Western Province all districts except Kigezi planted a reduced acreage of maize in 1951, but sales of the marketable surplus were slightly greater. This surplus amounted to some 15,000 bags, the whole of which was used for consumption within the Province.

In all areas the price to the producer was Sh. 14 per 200 pounds.

RICE

In the Eastern Province the declining popularity of this crop continued and the estimated acreage fell once more by over 10,000 acres, only 4,204 acres being planted in 1951. Prices of paddy, however, have remained at a high level, and the reason for the lack of interest being shown towards this crop is not understood.

In the Western Province the acreage planted in Toro District decreased from 2,906 acres in 1950 to 2,530 acres in 1951. Recorded sales were 160 tons of paddy. In Ankole a few acres of hill paddy were planted in Bunyaruguru which grew well. The bulk of the crop was sold internally as seed for extended planting in the future.

WHEAT

In Bugishu the acreage planted on the slopes of Mount Elgon increased from 455 acres in 1950 to 530 acres in the present year.

In Kigezi the acreage planted to wheat increased from 537 acres in 1950 to 934 acres in 1951, but recorded sales were only 32 tons. In Toro District the acreage increased from 58 acres to 142 acres.

Pulses

BEANS

In Buganda the season was a poor one for beans as rainfall tended to be excessive and recorded sales diminished from 4,060 tons in 1950 to 1,657 tons in 1951. In addition to the amount recorded as sold, there is little doubt that substantial quantities changed hands at more than the controlled f.o.r. price of Shs.309 per ton which averaged 10 cents per pound to the producers. In the Western Province 256 tons were marketed. This was approximately the same as in the previous year but sales in Ankole declined from 234 to 210 tons. In this district the local requirements for labour on mines could not be met and the shortage was aggravated by illegal exports to Tanganyika due to the high prices ruling in that territory. In Toro recorded sales amounted to 20 tons only, but as the local estates were able to purchase their requirements it would appear that a very much larger quantity must have changed hands.

Soya Beans

The acreage decreased in Buganda Province from 12,886 acres in 1950 to 4,355 acres in 1951. Similarly in Ankole District the acreage fell from 7,569 acres to 2,618 acres. Total sales amounted to 1,311 tons made up of 772 tons from Mengo District, 230 tons from Masaka and 309 tons from Ankole. The decline in this crop, especially in Buganda, is due almost entirely to the high prices now ruling for cotton and coffee.

Field Peas

Further interest in this crop was shown in Ankole where the growing of field peas is tending to replace soya beans. The acreage rose from 6,763 acres in 1950 to 7,075 acres in 1951. It is suspected once again that a proportion of the marketable surplus, which was 1,200 tons in 1951, came illegally from Kigezi District, where under the Provisions of the Native Foodstuffs Ordinance there is a ban on the purchase and export of foodstuffs.

Grams and Miscellaneous Pulses

In the Mengo and Masaka Districts the acreage planted to these crops was 16,888 acres which was slightly less than that of the previous year. As with beans, the season was unfavourable and sales surplus to producers' own requirements were 626 tons only.

In the Eastern Province large quantities of grams, cowpeas and pigeon peas were sold from the more northerly areas but figures for these are not available. It is estimated, however, that some 2,000 tons were bought at prices ranging between 16 and 20 cents per pound for cowpeas and pigeon peas and up to Sh. 1 per pound for green grams.

Miscellaneous Crops

Flax

The policy of growing only one crop per annum, adopted for the control of *Pasmo* disease, was continued in 1951. The crop processed during the year was from that planted in September, 1950, and harvested in the spring of 1951; 400 acres produced 303 tons of straw and 56 tons of seed. Yields per acre were considerably higher than in the previous year and the quality of the straw was better than any produced since 1947. Handling of the crop showed a great improvement and growers took more care in the sorting and grading of the straw. Prices paid were 4 cents per pound for Grade I and 3 cents per pound for Grade II straw, with seed at 10 cents per pound. The quality of the fibre produced during the year was far superior to that produced in 1950 and the out-turn of 9·3 per cent fibre was an improvement over the previous season's 7 per cent. Production was 21·4 tons of fibre, 10·7 tons of tow and 5·28 tons of tow waste.

The 1951–52 crop planted in October grew well until the very wet weather at the end of the year caused considerable damage. Some 364 acres were planted of which 63 acres were in Ankole and 301 acres in Kigezi.

The trials of imported varieties of flax from England, Holland, Canada, U.S.A. and Egypt, and with the Stormont Gossamer and Liral Crown varieties grown in Kigezi, were continued in an endeavour to obtain a variety resistant to *Pasmo*. The most promising varieties are Formosa and Hollandia from Holland.

The beneficial effects which appeared to be obtained from seed dressing and from the restriction of cultivation to one crop a year were encouraging from a *Pasmo* control point of view.

Chillies

In Masaka District which is the principal area in which this crop is grown, the unusually dry weather at planting time prevented the establishment of a large acreage. The total acreage in Buganda Province was 1,241 acres as compared with 2,316 acres in 1950, but sales only declined from 564 tons to 530 tons. Prices were about 70 to 80 cents per pound for capsicums and varied from 90 cents to Shs. 2 per pound for chillies.

Wattle Bark

During the year the Native Produce Marketing (Wattle Bark) Rules were introduced in order to prevent the purchase and storage of immature, wet and mouldy bark. Before these rules were applied, speculative and uncontrolled buying of wattle bark continued on an extensive scale in Kigezi and large quantities of bark, often of immature and inferior quality, were purchased. If these sales had continued the effect on the wattle economy of the district and on the survival of the trees would have been serious. By the end of the year ten gazetted markets were ready to purchase bark in a more orderly manner. A total of 2,530 tons was exported during the year, compared with 530 tons in 1950. Prices ranged from 8 cents to 23 cents per pound, the lower prices being paid at the end of the year when the demand from India decreased as a direct result of the poor quality of the earlier shipments received.

European Potatoes

In the Western Province the acreage of English potatoes increased slightly and approximately 8,000 acres were planted, most of which were in Kigezi District. The marketable surplus from Kigezi amounted to 693 tons, which was a record. In addition, local miners purchased considerable quantities for their labour.

Onions

Endeavours were made to improve both the quality and production of onions in Toro and Ankole Districts. Seed of the "Bombay" variety was distributed and growers were advised to dry their crop so that a proportion could be stored and placed on the market slowly. At present growers are inclined to sell the whole of their production immediately after harvest; this results in a seasonal flooding of the market and a consequent reduction in price. Some 239 tons are estimated to have been marketed in the Province compared with 294 tons in 1950.

European Vegetables

To meet the increasing demand for fresh vegetables in Kampala and to provide an additional economic crop for a small number of farmers in Kigezi District, a vegetable growing scheme was initiated in that district during the year. Purchases commenced in September and by the end of the year, by which time it was possible to despatch one lorry load a week, 24 tons had been sold in Kampala. Inevitably there was some wastage at the beginning for it was difficult for growers to adjust

their plantings of the various types according to the demand. The Department devoted a considerable amount of time to this new venture and by the end of the year in spite of the long road haul it had been shown that by travelling overnight, vegetables can be landed in Kampala in excellent condition within 24 hours of picking in Kigezi.

Staff

The Entomological Section of the Laboratories Division was augmented by one Entomologist but the general staff position still gives cause for concern and at the end of the year there were eleven vacancies for Agricultural Officers out of an establishment of thirty-one. During the year the Department lost one senior officer on retirement, one junior officer on resignation and a further two senior officers on transfer. Despite this loss of senior men it was unfortunately not found possible to obtain any immediate replacements. Three new recruits are expected to arrive during the last quarter of 1952 and a further four officers in 1953. Meanwhile, however, the staff resources continue to be strained to the utmost which in view of the important agricultural developments now taking place is most unfortunate.

Once again it is desired to thank the Deputy Controllers of Agricultural Produce, the Uganda Loading Committee, the East African Meteorological Department and the numerous unofficial members of the community who have rendered valuable assistance not only to myself but also to the Department and the agricultural industry generally. My thanks are also due to all members of the Staff who have worked enthusiastically, loyally and well throughout the year.

This Report would not be complete without paying tribute to the sterling work carried out in the Protectorate by the late Director of Agriculture, Mr. A. B. Killick, C.M.G., who retired during the year under review. It will be acknowledged by his former colleagues and all who know him that the rapid advances made during the last few years in the sphere of agriculture are in a very large measure due to his energy, wisdom and foresight.

T. Y. WATSON,
Director of Agriculture.

SEPTEMBER, 1952.

Appendix I (a)

COTTON PRODUCTION: 1950-51 SEASON

Province and Zone	Acreages		Sales in Tons		Yields per Acre: Lbs.	
	Totals	Means	Totals	Means	Means	
	1950–51	1944–51	1950–51	1944–51	1950–51	1944–51
Buganda:						
Mengo	385,884	327,287	64,506	60,322	374	413
Masaka	62,043	39,013	10,100	7,302	365	419
Mubende–Toro ...	87,124	73,663	13,847	13,143	356	401
Totals ...	535,051	439,963	88,453	80,767	370	411
Eastern:						
Busoga	230,702	221,527	37,797	32,152	367	325
North Central ...	163,356	139,203	16,182	12,174	222	195
South Central ...	135,182	124,043	11,329	9,428	188	169
Usuku	11,706	15,473	2,295	1,026	439	149
North Teso ...	39,770	43,665	4,932	2,372	278	121
South Teso ...	46,856	55,616	8,257	4,164	395	168
Segregated Areas...	27,707	31,495	5,998	2,928	485	208
Totals ...	655,279	631,022	86,790	64,244	297	228
Western:						
Bunyoro	31,340	21,115	4,553	2,824	325	300
Northern:						
North Lango ...	147,082	98,009	10,067	8,481	153	194
South Lango ...	41,560	39,758	4,940	2,996	266	169
West Acholi ...	36,833	28,507	3,470	3,022	211	238
East Acholi—						
Lower	11,874	9,342	2,181	1,038	411	249
Upper	18,153	16,775	2,185	1,743	270	233
West Nile—Madi	58,028	33,677	3,543	3,133	137	208
Totals ...	313,530	226,068	26,386	20,413	189	202
PROTECTORATE TOTALS ...	1,535,200	1,318,168	206,182	168,248	301	285

Appendix I (b)

COTTON PRODUCTION: 1951-52 SEASON

Monthly Plantings—Acres

Province and Zone	April	May	June	July	August	September	Totals
Buganda:							
Mengo	...	2,124	54,438	141,708	119,860	2,927	321,057
Masaka	...	913	10,846	7,650	13,218	4,814	37,441
Mubende–Toro ...	...	2,284	10,994	28,248	34,028	11,663	87,217
Totals ...	...	5,321	76,278	177,606	167,106	19,404	445,715
Eastern:							
Busoga	...	18,284	79,841	131,951	73,137	1,524	304,737
South Central ...	...	5,468	33,006	60,596	35,522	...	134,592
North Central ...	23	11,245	41,207	74,324	43,592	...	170,391
North Teso ...	74	5,672	19,591	12,213	5,315	...	42,865
Usuku	1,117	6,803	5,024	628	70	...	13,642
South Teso ...	353	10,172	20,648	20,489	8,399	...	60,061
Segregated Areas...	46	4,720	12,011	9,593	6,358	...	32,728
Totals ...	1,613	62,364	211,328	309,794	172,393	1,524	759,016
Western:							
Bunyoro	. .	1,078	8,762	12,648	7,970	494	30,952
Northern:							
North Lango ...	. .	2,225	39,900	56,743	20,579	...	119,447
South Lango . .	185	1,943	9,020	16,886	16,057	393	44,484
West Acholi ...	...	450	9,430	15,829	5,229	...	30,938
East Acholi—							
Upper	...	420	4,769	12,215	6,768	...	24,172
Lower	...	54	2,804	7,645	3,700	...	14,203
West Nile—Madi	...	1,347	17,502	23,551	6,774	...	49,174
Totals ...	185	6,439	83,425	132,869	59,107	393	282,418
PROTECTORATE TOTALS ...	1,798	75,202	379,793	632,917	406,576	21,815	1,518,101

Appendix I (c)

COTTON PRODUCTION

No. of Bales of 400 lbs.—1906-1951

Season	*Bales*	*Season*	*Bales*
1906...	500	1929–30	125,000
1907...	2,000	1930–31	189,000
1908...	4,000	1931–32	207,000
1909...	5,000	1932–33	295,000
1910...	12,000	1933–34	286,000
1911...	20,000	1934–35	253,000
1912–13	26,000	1935–36	316,000
1913–14	40,000	1936–37	332,000
1914–15	26,000	1937–38	418,000
1915–16	22,000	1938–39	307,000
1916–17	28,000	1939–40	300,000
1917–18	27,000	1940–41	365,000
1918–19	36,000	1941–42	238,000
1919–20	47,000	1942–43	112,000
1920–21	81,000	1943–44	191,000
1921–22	48,000	1944–45	272,000
1922–23	88,000	1945–46	227,000
1923–24	128,000	1946–47	231,000
1924–25	196,000	1947–48	170,000
1925–26	180,000	1948–49	391,000
1926–27	131,000	1949–50	339,000
1927–28	138,000	1950–51	346,000
1928–29	204,000		

Note:—All figures corrected to nearest 1,000.

CROP PRODUCTION

ESTIMATED ACREAGES UNDER CROPS: 1950 AND 1951

African Cultivation

Crops	Buganda Province		Eastern Province		Northern Province		Western Province		Totals	
	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951
Beans, Mixed	109,232	80,837	168,762	189,685	83,436	101,566	97,732	94,714	459,162	466,802
Beans, Soya	12,886	4,355	...	...	...	..	7,896	2,673	20,782	7,028
Cassava	94,281	80,119	147,034	163,502	171,347	140,600	85,215	98,726	497,877	482,947
Chillies	2,316	1,241	...	...	..	...	32	23	2,348	1,264
Coffee, *Arabica*	2,300	2,300	11,000	12,000	36	20	4,129	2,248	17,465	16,568
Coffee, *Robusta*	156,670	178,141	1,050	1,200	...	..	4,961	3,644	162,681	182,985
Cotton	508,134	416,481	621,194	779,140	303,038	262,294	58,336	60,306	1,490,702	1,518,221
Flax	...	...	...	...	...	..	400	364	400	364
Grams	17,121	16,888	...	...	2,080	233	...	4	19,201	17,125
Groundnuts	60,133	47,572	185,128	266,438	67,989	77,742	31,645	22,945	344,895	414,697
Maize	93,567	92,161	135,938	88,707	34,675	42,206	52,399	44,891	316,579	267,965
Millets, Sorghum	17,199	25,617	137,238	114,142	196,182	183,447	164,844	201,631	515,463	524,837
Millets, Finger	17,767	21,280	654,340	727,724	343,038	287,974	121,195	123,162	1,136,340	1,160,140
Millets, Bulrush	..	...	...	...	928	593	...	...	928	593
Onions	.	...	...	...	...	..	1,619	1,835	1,619	1,835
Peas, Pigeon	...	...	...	...	222,262	212,682	747	1,028	223,009	213,710
Peas, Field	...	...	...	...	...	...	38,287	52,633	38,287	52,633
Plantains	487,149	498,773	281,500	280,000	758	318	101,948	75,407	871,355	854,498
Potatoes, Sweet	102,470	96,527	152,675	199,625	110,104	92,136	133,676	129,907	498,925	518,195
Potatoes, English	696	...	3,966	4,397	...	...	7,873	8,007	12,535	12,404
Rice	.	...	15,867	4,204	2,528	2,117	2,906	2,535	21,301	8,856
Simsim	5,322	3,751	30,110	27,866	214,769	159,347	6,126	6,656	256,327	197,620
Sunflower	...	...	...	...	130	1,000	414	294	544	1,294
Tobacco, Flue-cured	...	...	...	...	579	1,087	...	...	579	1,087
Tobacco, Fire-cured	640	672	...	...	...	...	5,532	2,998	6,172	3,670
Tobacco, Air-cured	769	505	...	...	770	704	146	45	1,685	1,254
Tobacco, Nicotine	...	...	...	...	...	...	2,338	2,065	2,338	2,065
Wheat	...	...	455	530	...	...	595	1,076	1,050	1,606
Provincial Totals	1,688,652	1,567,220	2,546,257	2,859,160	1,754,649	1,566,066	930,990	912,485	6,920,548	6,904,931

CROP PRODUCTION: ESTIMATED ACREAGES

Appendix II (a)

Eastern Province

Crops	Busoga		Mbale		Teso		Provincial Totals	
	1950	1951	1950	1951	1950	1951	1950	1951
Beans, Mixed	32,537	48,980	55,852	63,132	80,373	77,573	168,762	189,685
Cassava	32,591	36,691	72,757	88,007	41,686	38,804	147,034	163,502
Coffee, *Arabica*	...	...	11,000	12,000	...	...	11,000	12,000
Coffee, *Robusta*	1,050	1,200	...	...	...	...	1,050	1,200
Cotton	230,702	304,737	264,453	262,262	126,039	212,141	621,194	779,140
Groundnuts	68,750	96,910	28,977	61,734	87,401	107,794	185,128	266,438
Maize	54,056	55,504	79,783	31,373	2,099	1,830	135,938	88,707
Millet, Sorghum	762	1,564	18,229	16,442	118,247	96,136	137,238	114,142
Millet, Finger	175,961	185,304	260,697	271,635	217,682	270,785	654,340	727,724
Plantains	180,000	180,000	100,000	100,000	1,500	...	281,500	280,000
Potatoes, Sweet	58,037	78,791	45,643	59,855	48,995	60,979	152,675	199,625
Potatoes, English	...	...	3,966	4,397	...	...	3,966	4,397
Rice	360	22	10,500	1,066	5,007	3,116	15,867	4,204
Simsim	2,317	1,961	1,887	2,163	25,305	23,742	30,110	27,866
Wheat	...	...	455	530	...	...	455	530
Totals ...	837,123	991,664	954,199	974,596	754,334	892,900	2,546,257	2,859,160

CROP PRODUCTION: ESTIMATED ACREAGES

Appendix II (b)

Northern Province

Crops	Lango		Acholi		West Nile/Madi		Karamoja		Provincial Totals	
	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951
Beans, Mixed	25,202	25,723	15,189	17,553	43,045	58,290	...	...	83,436	101,566
Cassava	60,792	45,722	18,763	20,722	91,792	74,156	...	...	171,347	140,600
Coffee, *Arabica*	...	...	...	...	36	20	...	...	36	20
Cotton	182,844	147,367	62,166	65,753	58,028	49,174	...	...	303,038	262,294
Grams	2,080	233	...	...	...	...	...	...	2,080	233
Groundnuts	25,944	28,088	18,522	24,338	23,523	25,316	...	...	67,989	77,742
Maize	5,479	5,623	1,943	2,223	27,253	34,360	...	...	34,675	42,206
Millet, Sorghum	126,599	96,537	15,494	19,543	23,089	27,367	31,000	40,000	196,182	183,447
Millet, Finger	171,544	161,954	95,621	74,105	75,873	51,915	...	...	343,038	287,974
Millet, Bulrush	...	...	928	593	...	...	...	...	928	593
Peas, Pigeon	171,544	161,954	43,200	41,700	7,518	9,028	...	...	222,262	212,682
Plantains	758	318	...	...	...	...	...	...	758	318
Potatoes, Sweet	34,001	18,720	22,343	30,722	53,760	42,694	...	...	110,104	92,136
Rice	1,853	1,318	236	480	439	319	...	...	2,528	2,117
Simsim	112,326	75,886	55,750	55,997	46,693	27,464	...	...	214,769	159,347
Sunflower	...	...	...	...	130	1,000	...	...	130	1,00
Tobacco, Air-cured	...	...	90	...	680	704	...	...	770	70
Tobacco, Flue-cured	...	...	345	515	234	572	...	...	579	1,087
Totals ...	920,966	769,443	350,590	354,244	452,093	402,379	31,000	40,000	1,754,649	1,566,066

CROP PRODUCTION: ESTIMATED ACREAGES

Appendix II (c)

Western Province

Crops	Ankole		Bunyoro		Kigezi		Toro		Provincial Totals	
	1950	1951	1950	1951	1950	1951	1950	1951	1950	1951
Beans, Mixed	26,693	17,049	12,723	12,045	39,118	40,945	19,198	24,675	97,732	94,714
Beans, Soya	7,569	2,618	...	...	9	16	318	39	7,896	2,673
Cassava	5,017	4,397	19,605	26,484	2,011	1,579	58,582	66,266	85,215	98,726
Chillies	...	...	...	...	...	...	31	23	31	23
Coffee, *Arabica*	2,052	190	350	...	210	290	1,517	1,768	4,129	2,248
Coffee, *Robusta*	1,700	841	1,350	550	200	200	1,711	2,053	4,961	3,644
Cotton	80	20	31,340	30,952	...	...	26,916	29,334	58,336	60,306
Flax	167	63	...	...	233	301	...	...	400	364
Grams	...	...	...	...	...	...	...	4	...	4
Groundnuts	15,379	7,614	4,732	5,260	4,923	4,887	6,611	5,184	31,645	22,945
Maize	9,123	6,221	8,283	7,293	18,694	18,426	16,299	12,951	52,399	44,891
Millet, Sorghum	15,645	10,353	1,232	1,605	142,464	185,540	5,503	4,133	164,844	201,631
Millet, Finger	31,211	27,332	21,841	30,952	46,014	44,838	22,129	20,040	121,195	123,162
Onions	1,097	876	...	295	123	226	399	438	1,619	1,835
Peas, Field	6,763	7,075	...	...	31,337	45,334	187	224	38,287	52,633
Peas, Pigeon	...	...	680	961	...	...	67	67	747	1,028
Plantains	34,788	519	17,500	18,000	32,416	39,317	17,244	17,571	101,948	75,407
Potatoes, Sweet	24,566	15,918	15,193	15,978	76,085	79,966	17,832	18,045	133,676	129,907
Potatoes, English	..	11	200	181	7,350	7,598	323	217	7,873	8,007
Rice	...	...	...	5	...	...	2,906	2,530	2,906	2,535
Simsim	...	3	5,880	6,452	61	24	185	177	6,126	6,656
Sunflower	..	...	...	...	414	294	...	...	414	294
Tobacco, Fire-cured	...	...	5,532	2,998	...	...	...	...	5,532	2,998
Tobacco, Air-cured	...	...	...	...	56	45	90	...	146	45
Tobacco, Nicotine	421	384	...	...	1,917	1,681	...	...	2,338	2,065
Wheat	..	..	...	..	537	934	58	142	595	1,076
Totals	182,271	101,484	146,441	160,011	404,172	472,441	198,106	205,881	930,990	939,817

CROP PRODUCTION: ESTIMATED ACREAGES

Appendix II (d)

Buganda Province

Crops	Mengo		Masaka		Mubende		Provincial Totals	
	1950	1951	1950	1951	1950	1951	1950	1951
Beans, Mixed	82,294	69,058	17,547	9,231	9,391	2,548	109,232	80,837
Beans, Soya	10,351	3,867	2,535	488	...	...	12,886	4,355
Cassava	79,446	62,190	5,674	4,513	9,161	13,416	94,281	80,119
Chillies	...	...	2,258	1,058	58	183	2,316	1,241
Coffee, *Arabica*	1,200	1,200	100	100	1,000	1,000	2,300	2,300
Coffee, *Robusta*	110,881	117,881	42,310	56,281	3,479	3,979	156,670	178,141
Cotton	424,399	359,065	62,043	37,441	21,692	19,975	508,134	416,481
Grams	15,994	16,461	1,123	427	4	...	17,121	16,888
Groundnuts	48,349	39,219	6,131	4,603	5,653	3,750	60,133	47,572
Maize	83,884	84,514	5,326	6,901	4,357	746	93,567	92,161
Millet, Sorghum	10,332	16,557	3,786	8,773	3,081	287	17,199	25,617
Millet, Finger	13,049	14,616	595	847	4,123	5,817	17,767	21,280
Plantains	311,550	318,000	137,112	141,628	38,487	39,145	487,149	498,773
Potatoes, Sweet	86,749	80,704	6,425	5,020	9,296	10,803	102,470	96,527
Potatoes, English	...	...	510	...	186	...	696	...
Simsim	4,892	3,003	...	...	430	748	5,322	3,751
Tobacco, Fire-cured	...	...	...	...	640	672	640	672
Tobacco, Air-cured	...	...	...	...	769	505	769	505
Totals ...	1,283,370	1,186,335	293,475	277,311	111,807	103,574	1,688,652	1,567,220

QUANTITIES MARKETED AND ESTIMATED VALUES

African Production

Crops	Buganda Province		Eastern Province		Northern Province		Western Province		Protectorate Totals	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	Tons	£	*Tons*	£	*Tons*	£	*Tons*	£	*Tons*	£
Beans, Mixed	1,657	19,050	...	...	1	18	256	2,866	1,914	21,934
Beans, Soya	1,002	15,711	...	...	...	...	309	4,499	1,311	20,210
Castor Seed	4,594	385,896	...	...	...	...	610	51,180	5,204	437,076
Chillies	530	47,489	...	...	...	...	15	1,260	545	48,749
Coffee, *Arabica*	511*	28,038	3,896†	442,104	...	...	227	22,036	4,634	492,178
Coffee, *Robusta**	68,756	3,089,725	27	2,700	...	...	329	27,201	69,112	3,119,626
Cotton	86,288	4,264,331	95,422	4,535,882	25,834	1,226,872	7,009	344,786	214,553	10,371,871
Flax Seed	...	...	...	...	...	...	56	627	56	627
Flax Straw	...	...	...	...	...	...	302	1,513	302	1,513
Grams	626	21,029	...	...	...	...	2	85	628	21,114
Groundnuts	632	19,029	16,073	477,666	2	34	1,491	49,707	18,198	546,436
Honey	...	...	181	12,163	...	...	...	...	181	12,163
Maize	11,536	89,882	7,191	55,705	...	...	1,386	10,769	20,113	156,356
Millet, Finger	14	392	...	...	...	...	165	2,742	179	3,134
Millet, Sorghum	23	773	...	...	...	...	179	4,024	202	4,797
Onions	...	...	...	...	...	...	239	5,250	239	5,250
Peas, Field	...	...	...	...	...	...	1,214	49,046	1,214	49,046
Peas, Pigeon	...	...	...	...	8	387	1	67	9	454
Potatoes, English	...	...	...	...	...	...	734	4,616	734	4,616
Rice (Paddy)	...	...	...	...	...	...	160	3,606	160	3,606
Shea Butter Nuts	...	...	1,260	33,868	545	12,200	...	...	1,805	46,068
Simsim	138	5,170	102	1,554	13	350	63	1,902	316	8,976
Sunflower	...	...	...	...	200	5,600	49	995	249	6,595
Tobacco, Flue-cured‡	...	...	...	...	1,234	8,276	...	...	1,234	8,276
Tobacco, Fire-cured	154	11,521	...	...	...	...	580	43,305	734	54,826
Tobacco, Air-cured§	83	6,021	...	...	150	10,703	6	374	239	17,098
Tobacco, Nicotine	...	...	...	...	...	...	400	8,065	400	8,065
Wattle	...	...	...	...	...	...	2,530	42,086	2,530	42,086
Wheat	...	...	...	...	...	...	41	668	41	668
Totals	176,544	8,004,057	124,152	5,561,642	27,987	1,264,440	18,353	683,275	347,036	15,513,414

Note.—All values are based upon prices to the producers.

* Dried Cherry (Kiboko). † Parchment Coffee. ‡ Green Leaf. § Cured Leaf.

CROP PRODUCTION: 1951

Appendix III (a)

QUANTITIES MARKETED AND ESTIMATED VALUES

Eastern Province

Crops	Busoga		Mbale		Teso		Provincial Totals			
							1951		1950	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	Tons	£	*Tons*	£	*Tons*	£	*Tons*	£	*Tons*	£
Coffee, *Arabica*	...	...	3,896	442,104	...	...	3,896	442,104	2,852	184,859
Coffee, *Robusta*	27	2,700	...	...	...	...	27	2,700	20	631
Cotton	37,797	1,830,905	27,511	1,323,697	30,114	1,381,280	95,422	4,535,882	74,184	2,601,842
Grams	...	...	...	...	...	...	...	...	1,270	25,827
Groundnuts	12,811	384,330	2,000	58,000	1,262	35,336	16,073	477,666	15,113	363,483
Honey	...	...	...	...	181	12,163	181	12,163	196	8,780
Maize	6,891	54,025	300	1,680	...	...	7,191	55,705	10,675	59,785
Rice	...	...	...	...	...	...	...	...	142	3,747
Simsim	9	200	...	...	93	1,354	102	1,554	370	9,095
Shea Butter Nuts	...	...	...	...	1,260	33,868	1,260	33,868	800	10,544
Totals ...	57,535	2,272,160	33,707	1,825,481	32,910	1,464,001	124,152	5,561,642	105,622	3,268,593

CROP PRODUCTION: 1951

Appendix III (b)

QUANTITIES MARKETED AND ESTIMATED VALUES

Northern Province

Crops	Lango		Acholi		West Nile/Madi		Karamoja		Provincial Totals			
									1951		1950	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	Tons	£	*Tons*	£	*Tons*	£	*Tons*	£	*Tons*	£	*Tons*	£
Beans, Mixed ...	...	...	...	...	1	18	...	...	1	18	4	52
Cotton	15,268	727,027	7,021	332,090	3,545	167,755	...	...	25,834	1,226,872	29,364	1,003,755
Groundnuts	...	...	2	34	...	...	...	...	2	34	...	...
Peas, Pigeon	8	387	...	...	...	...	...	...	8	387	...	...
Simsim	12	341	1	9	...	...	...	...	13	350	24	529
Shea Butter Nuts ...	500	11,200	45	1,000	...	...	...	...	545	12,200	94	1,662
Sunflower	...	...	...	...	200	5,600	...	...	200	5,600	30	548
Tobacco, Flue-cured‡ ...	...	...	568	3,757	666	4,519	...	...	1,234	8,276	577	3,512
Tobacco, Air-cured§ ...	...	...	...	...	150	10,703	...	...	150	10,703	89	4,679
Totals ...	15,788	738,955	7,637	336,890	4,562	188,595	...	...	27,987	1,264,440	30,182	1,014,737

‡ Green leaf. § Cured leaf.

CROP PRODUCTION: 1951
QUANTITIES MARKETED AND ESTIMATED VALUES
Western Province

Crops	Ankole		Bunyoro		Kigezi		Toro		Provincial Totals			
									1951		1950	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	Tons	£	*Tons*	£	*Tons*	£	*Tons*	£	*Tons*	£	*Tons*	£
Beans, Mixed ...	210	2,352	18	178	8	90	20	266	256	2,886	250	2,262
Beans, Soya	309	4,499	...	...	...	...	...	...	309	4,499	546	6,118
Castor Seed	474	42,470	...	...	65	4,710	71	4,000	610	51,180	187	41,614
Chillies	15	1,260	...	...	...	...	...	...	15	1,260	3	168
Coffee, *Arabica* ...	107	10,966	...	...	9	809	111	10,261	227	22,036	203	14,501
Coffee, *Robusta* ...	86	6,200	13	472	4	316	226	20,213	329	27,201	526	15,163
Cotton	8	360	4,554	222,485	...	...	2,447	121,941	7,009	344,786	7,488	266,650
Flax, Straw	110	728	...	...	192	785	...	...	302	1,513	475	3,446
Flax, Seed	21	241	...	...	35	386	...	...	56	627	91	522
Grams	1	25	...	...	...	...	1	60	2	85	...	...
Groundnuts	1,452	48,787	2	44	22	473	15	403	1,491	49,707	2,064	42,759
Maize	975	7,744	41	323	354	2,577	16	125	1,386	10,769	766	4,399
Millet, Sorghum ...	179	4,024	...	...	...	...	...	...	179	4,024	...	...
Millet, Finger ...	138	2,319	...	...	27	423	...	...	165	2,742	...	...
Onions	133	2,979	...	...	88	1,768	18	503	239	5,250	294	3,441
Peas, Field	1,200	48,832	...	...	14	214	...	...	1,214	49,046	536	14,091
Peas, Pigeon	...	...	...	...	...	...	1	67	1	67	...	...
Potatoes, English ...	19	213	10	110	693	4,158	12	135	734	4,616	269	1,692
Rice	...	...	...	...	...	...	160	3,606	160	3,606	135	1,825
Simsim	...	...	63	1,902	...	...	...	...	63	1,902	24	515
Sunflower	20	560	...	...	29	435	...	...	49	995	51	696
Tobacco, Fire-cured ...	...	...	580	43,305	...	...	...	...	580	43,305	860	45,056
Tobacco, Air-cured§ ...	...	...	...	...	6	374	...	...	6	374	...	...
Tobacco, Nicotine ...	41	826	...	...	359	7,239	...	...	400	8,065	542	8,672
Wattle	290	5,846	...	...	2,240	36,240	...	...	2,530	42,086	530	5,300
Wheat	...	...	...	...	32	480	9	188	41	668	119	1,831
Totals ...	5,821	192,579	5,281	268,819	4,201	61,669	3,107	161,768	18,353	683,275	15,959	480,721

§ Cured leaf.

CROP PRODUCTION: 1951

QUANTITIES MARKETED AND ESTIMATED VALUES

Buganda Province

Crops	Mengo		Masaka		Mubende		Provincial Totals			
							1951		1950	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	Tons	£	*Tons*	£	*Tons*	£	*Tons*	£	*Tons*	£
Beans, Mixed	1,628	18,817	23	179	6	54	1,657	19,050	4,060	36,485
Beans, Soya	772	12,105	230	3,606	...	...	1,002	15,711	1,620	20,239
Castor Seed*	...	...	...	...	...	...	4,594	385,896	1,182	90,258
Chillies	2	180	528	47,309	...	...	530	47,489	564	50,537
Coffee, *Arabica*	245	13,263	260	14,463	6	312	511	28,038	377	15,351
Coffee, *Robusta*	45,134	2,025,862	23,120	1,041,331	502	22,532	68,756	3,089,725	52,148	1,804,579
Cotton	71,777	3,560,060	10,360	500,519	4,151	203,752	86,288	4,264,331	96,551	3,461,553
Grams	371	12,461	255	8,568	...	...	626	21,029	1,584	44,335
Groundnuts	286	8,008	108	3,024	238	7,997	632	19,029	894	20,035
Maize	11,488	89,506	48	376	...	...	11,536	89,882	21,709	119,944
Millet, Sorghum	1	34	22	739	...	...	23	773	45	1,008
Millet, Finger	14	392	...	...	...	...	14	392	2	45
Simsim	114	4,330	...	...	24	840	138	5,170	232	5,209
Tobacco, Fire-cured	...	...	...	...	154	11,521	154	11,521	179	10,111
Tobacco, Air-cured§	...	...	...	...	83	6,021	83	6,021	136	7,102
Totals ...	131,832	5,745,018	34,954	1,620,114	5,164	253,029	176,544	8,004,057	181,283	5,686,791

* District figures NOT available, and the District totals of quantities and values do not include Castor Seed. § Cured leaf.

OVERSEAS EXPORTS OF AGRICULTURAL PRODUCTS, 1951

Article	Unit	Quantities			Value in £		
		1949	1950	1951	1949	1950	1951
Oilseeds and Products:							
Cotton Seed	*Tons*	58,868	49,199	30,578	1,163,382	893,251	658,048
Castor Seed	*Tons*	658	1,858	4,484	21,764	88,009	421,200
Groundnuts	*Tons*	223	588	...	10,472	26,933	...
Linseed	*Tons*	104	109	44	5,504	6,300	2,230
Cotton Seed Cake	*Tons*	9,313	13,526	17,078	170,860	223,493	319,761
Groundnut and Sesame Cake	*Tons*	...	163	...	...	3,245	...
Castor Seed Oil	*Tons*	2	1	...	200	215	...
Edible Oils and Fats	*Tons*	...	309	884	...	35,455	152,910
Other Oilseed Cakes, Meals, and Vegetable Oil residues	*Tons*	...	1,958	4,865	...	35,326	94,878
Fibres:							
Cotton	*Tons*	69,688	62,182	61,808	17,342,765	16,697,697	28,741,604
Sisal	*Tons*	878	1,023	1,190	68,124	107,124	194,174
Flax	*Tons*	75	86	40	8,184	9,990	5,746
Beverage Crops and Tobacco:							
Coffee, Raw, Hulled	*Tons*	23,898	31,868	43,628	2,890,901	8,331,912	13,654,093
Tea	*Tons*	1,025	946	854	223,087	244,488	265,243
Cigarettes	*Lbs.*	623,543	589,185	490,712	75,550	59,639	55,095
Tobacco, Unmanufactured	*Tons*	...	57	47	...	10,549	9,052
Spices and Drugs:							
Chillies	*Tons*	519	872	847	44,526	134,579	135,524
Cinchona Bark	*Tons*	20	22	11	3,150	3,376	1,860
Papain	*Tons*	50	24	10	51,711	38,688	33,051
Sugar and Products:							
Sugar, Unrefined	*Tons*	2,309	2,840	375	52,914	78,574	12,230
Jaggery	*Tons*	...	...	120	...	...	5,145
Ethyl Alcohol	*Proof Gals.*	53	548	...	12	149	...
Beans and Pulses:							
Beans and Peas	*Tons*	1,527	1,326	2,157	41,775	33,391	77,586
Pulses	*Tons*	2,680	5,329	3,692	91,542	168,029	146,636
Dhall	*Tons*	73	30	24	4,123	1,492	1,525
Soya Beans	*Tons*	3,611	2,668	757	114,883	89,905	35,409
Miscellaneous:							
Insecticides	*Tons*	34	27	23	30,192	20,732	12,783
Millet	*Tons*	120	199	1,103	1,950	5,283	34,746
Rubber	*Tons*	44	99	234	4,867	20,971	90,302
Wattle Bark	*Tons*	...	1,323	2,773	...	29,591	92,026
				Total £	22,422,708	27,408,386	45,252,857

Appendix IV (b)

EXPORT OF PRINCIPAL AGRICULTURAL PRODUCTS, 1951

All Destinations

Article	Unit	Quantity
Oilseeds and Products:		
Cotton seed	*Tons*	30,578
Cotton seed cake	*Tons*	26,079
Cotton seed oil	*Tons*	7,430
Groundnuts	*Tons*	180
Groundnut cake	*Tons*	7,276
Groundnut oil	*Tons*	4,200
Castor seed	*Tons*	4,484
TOTAL	*Tons*	80,227
Fibres:		
Cotton	*Tons*	61,808
Sisal	*Tons*	1,190
Flax	*Tons*	40
TOTAL	*Tons*	63,038
Beverage Crops:		
Coffee	*Tons*	43,628
Tea	*Tons*	855
TOTAL	*Tons*	44,483
Spices and Drugs:		
Chillies	*Tons*	847
Cinchona bark	*Tons*	11
Papain	*Tons*	10
TOTAL	*Tons*	868
Beans and Pulses:		
Beans and peas	*Tons*	2,157
Pulses	*Tons*	3,692
Dhall	*Tons*	24
Soya beans	*Tons*	757
TOTAL	*Tons*	6,630
Miscellaneous:		
Sugar	*Tons*	18,717
Rubber	*Tons*	234
Millets	*Tons*	1,103
Wattle bark	*Tons*	2,773
TOTAL	*Tons*	22,827

CROP PRODUCTION, UGANDA — Appendix V

Non-African Production, 1951

Crop	Estimated Acreage		Estimated Production			
			Amount		Approximate Value	
	1950	1951	1950	1951	1950	1951
	Acres	*Acres*	*Tons*	*Tons*	£	£
Coffee	21,067	20,895	3,060	3,846	616,363	940,504
Rubber	7,000	7,000	99	229	20,971	90,302
Sugar	26,662	27,331	54,623	48,783	1,720,624	1,646,426
Sisal	9,800	8,500	1,023	1,190	107,124	194,174
Tea	6,406	7,321	1,849	1,918	414,258	493,581
Pyrethrum ...	...	...	27	14	20,732	2,150
Total ...	70,935	71,047	60,681	55,980	2,900,072	3,367,137

POPULATION AND AVAILABILITY OF LAND, 1951

Appendix VI

Province/District	Approximate Area of District	Approximate Area Uncultivable (i.e. Water, Swamp)	Approximate Area available for Cultivation	Approximate Total Population of District	Taxpaying Population
	Acres	*Acres*	*Acres*		
Buganda:					
Mengo	6,729,600	3,346,164	3,383,436	899,596	239,351
Masaka	2,624,640	82,906	2,541,734	317,688	63,541
Mubende	1,714,560	114,560	1,600,000	84,878	21,095
Eastern:					
Busoga	4,728,460	2,550,000	2,178,460	464,328	129,902
Mbale	2,144,880	460,000	1,684,880	670,000	134,646
Teso	3,328,000	218,240	3,109,760	334,159	107,000
Northern:					
Acholi	7,191,680	423,680	6,768,000	220,000	41,000
Karamoja	7,432,980	898,560	6,534,420	125,000	24,985
Lango	3,200,000	600,000	2,600,000	319,738	63,857
West Nile–Madi	3,840,000	403,840	3,436,160	336,063	57,593
Western:					
Bunyoro	3,704,906	1,894,400	1,810,506	112,963	28,783
Ankole	4,072,320	415,400	3,656,920	453,861	84,204
Kigezi	1,308,000	311,568	996,432	448,537	64,456
Toro	3,479,680	617,000	2,862,680	285,991	58,798
TOTALS ...	55,499,706	12,336,318	43,163,388	5,072,802	1,119,211

Subject	Ordinance Number	Legal Notice Number	Short Title	Objects
Coffee	...	60	Non-Native Coffee (Marketing) Ordinance—Rules.	Restriction of export of Non-Native Coffee other than through the Board.
	...	229	Native Produce Marketing Ordinance—Order.	Limitation of number of Coffee Buying Licenses to two in respect of the declared area of Bwamba County in Toro District.
	...	273	Non-Native Coffee (Marketing) Ordinance—Rules.	Marketing of Non-Native *Robusta* and *Arabica* Coffees.
	...	228	Bugishu Coffee Scheme Ordinance—Order ...	Appointment of two African Members to the Bugishu Coffee Scheme Board.
Cotton	10	...	Lint Marketing Board (Amendment) Ordinance.	Authorises the Board to appoint supervisors for the purchase and export of lint cotton and cotton seed.
	11	...	Cotton (Amendment) Ordinance	Repeals sections 52, 53 and 54 of the Cotton Ordinance.
	...	22	Cotton Zone Ordinance—Maximum prices for Ginning and Baling Cotton.	Fixation of maximum prices payable for ginning and baling raw cotton at 21·5 cents per pound of lint.
	...	309	The Cotton Ordinance	Appointment of Cotton Markets.
	...	32	Defence (Controlled Produce) Regulations—Order.	Fixation of price and control of the disposal of "AR" Cottonseed.
	...	33	Defence (Controlled Produce) Regulations ...	Control of the disposal of "BR" Cottonseed.
Groundnuts and Simsim ...	...	159	Defence (Controlled Produce) Regulations—Order.	Restriction on exports of groundnuts and simsim surplus to local requirements and fixing prices free on rail.
	...	161	Defence (Controlled Produce) Regulations—Order.	Control on the production and export of groundnut and simsim oil and fixation of the price of groundnut and simsim cake.
Native Produce ...	...	115–117	Native Produce Marketing Ordinance ...	Declaration of Wattle Bark as Native Produce and establishment of Buying Centres. Kigezi District and part of Ankole District made Declared Areas applicable to Wattle Bark.
	...	136	Native Produce Marketing Ordinance—Rules.	Control of the Marketing of Wattle Bark.
	...	31	Native Produce Marketing (Adulteration) Rules.	Restriction of storage of specified native produce contaminated with Castor Seed.
Tea	29	...	Tea (Amendment) Ordinance	Amends the Tea Ordinance, 1950, and provides for the issue of Tea manufacturers' licenses by the Board.
	...	210	Tea Ordinance—Rules	Control of the export of Tea by Export Permits.
	...	221	Tea Ordinance—Notice	Imposition of Cess on acreage planted and on manufactured tea at Shs. 2/50 per acre or part thereof and Shs. 1/50 per 100 lb. of manufactured tea (nett) respectively.

NOTE.—In addition to the above Protectorate Government legislation, six African Local Government District Councils have made Bye-laws providing for improved standards of crop cultivation and conservation.

DEPARTMENT OF AGRICULTURE, UGANDA

Appendix VIII

STAFF POSTINGS AS AT 31st DECEMBER, 1951

A.—Administrative

Title	Name	Station	Remarks
Director of Agriculture	A. B. KILLICK	Entebbe ...	Proceeded on leave prior to retirement 7-12-51.
Deputy Director of Agriculture ...	T. Y. WATSON	Entebbe ...	Acting Director of Agriculture 19-7-51 to 31-7-51. Promoted Director of Agriculture 1-12-51.
Assistant Director of Agriculture ...	W. J. MILL IRVING ...	Entebbe ...	Acting Director of Agriculture 1-1-51 to 11-1-51. Acting Deputy Director of Agriculture 19-7-51 to 31-7-51. Promoted Deputy Director of Agriculture 1-12-51.
Assistant Director of Agriculture (Special Development)	R. K. KERKHAM	Kawanda.	
Office Superintendent	E. B. BUCKINGHAM ...	Entebbe ...	On leave 27-3-51 to 13-9-51.
Stenographer-Secretaries	MRS. J. BECKETT	Kawanda ...	Proceeded on leave prior to termination of appointment on 15-8-51.
	MISS H. C. M. MCKINSTRY	Entebbe.	

B.—General Division

Senior Agricultural Officers and Agricultural Officers	R. P. DAVIDSON	Kampala ...	Provincial Agricultural Officer, Western Province. Proceeded on leave 25-9-51.
	T. MCEWEN	Masaka.	
	H. L. G. MILNE	Masindi ...	Proceeded on leave prior to retirement on 27-5-51.
	D. F. STEWART	Gulu ...	Provincial Agricultural Officer, Northern Province.
	E. WILLIAMS	Jinja ...	Transferred to Nyasaland 15-6-52.
	D. R. N. BROWN	Kampala ...	Returned from leave 28-5-51. Provincial Agricultural Officer. Buganda.
	J. W. PURSEGLOVE ...	Kabale.	
	J. M. WATSON	Serere.	
	G. D. BADGER	Mbale ...	Proceeded on leave 19-6-51.
	S. MCCOMBE	Arua.	
	R. K. TREMLETT	Jinja ...	Proceeded on leave 16-7-51.
	A. E. B. WILLIAMS ...	Fort Portal.	
	D. D. CAMPBELL	Soroti ...	On leave from 26-1-51 to 12-7-51.
	D. J. PARSONS	Soroti ...	Proceeded on leave 24-7-51.
	E. S. T. MARSHALL ...	Bukalasa.	

Title	Name	Station	Remarks
	W. Galley	Serere.	
	G. Wrigley	Jinja ...	Returned from leave 30-7-51.
	P. S. Cooper	Hoima ...	Proceeded on leave pending termination of appointment 2-8-51.
	D. C. Todd	Busoga Farms.	
	W. H. Edwards	Kampala.	
	R. G. Hampson	Mbarara.	
	J. R. Low	Lira.	
	E. W. King	Hoima.	
Principal Agricultural Assistant ...	J. F. Low	Serere.	
Senior European Agricultural Assistants and European Agricultural Assistants	E. de C. Chisholm ...	Kawanda.	
	T. Boothroyd	Kampala.	
	G. Oliver	Lira.	
	L. B. Ellis	Kawanda.	
	T. G. Duncan	Masaka ...	On leave 21-4-51 to 4-12-51.
	L. Green	Kawanda ...	On leave 15-6-51 to 4-12-51.
	A. G. K. Will	Mbale.	
	A. F. Brown	Moroto.	
	J. G. Wilson	Serere.	
	J. P. M. Batten	Kampala.	
	D. MacDonald	Masaka.	
	K. R. C. Letts	Bukalasa.	
Flax Officer	G. A. Fennell	Kabale.	
Ginning Inspector	F. H. Knight	Kampala.	

C.—Laboratories Division

Senior Entomologists and Entomologists...	A. P. G. Michelmore ...	Kawanda.	
	T. E. T. Trought ...	Kawanda.	
	W. V. Harris	— ...	Seconded to Termite Research Organisation.
	P. R. Stephenson ...	— ...	Seconded to E.A. Locust Survey Organisation.
Senior Chemist and Chemists	Dr. E. M. Chenery ...	Kawanda.	
	W. R. Mills	Kawanda.	
Senior Botanist and Botanists... ...	J. D. Jameson	Kawanda ...	On leave 15-5-51 to 17-9-51.
	D. G. Thomas	Serere ...	On leave until 13-4-51.
	D. L. Downie	Kawanda.	
Curator, Botanic Gardens	Mrs. A. Hayes	Entebbe.	

Appendix VIII—*continued*

D.—Assistant Agricultural Officers

Name	*Station*
Y. M. Kaidzi	Kampala.
A. N. W. Kamese ...	Hoima.
H. D. Mubiru	Kawanda.
E. J. Kalanzi	Bukalasa.
E. Biruma	Busoga.
Z. Katerega	Bukalasa.
E. W. K. Wamala ...	Soroti.
E. B. Sarulo	Mbale.
Y. K. Musisi	Kawanda.
Z. H. Kwebiha	Fort Portal.
A. A. Kalanzi	Kampala.
S. M. B. Mutagwanya ...	Kampala.
M. Makumbi	Busoga.
A. Mulera	Bukalasa.
Y. K. Musitwa	Kampala.
J. B. O. Baguma	Mbarara.
B. Kagolo	Soroti.
B. Z. K. Kakoko	Entebbe.
P. Sempa	Serere.
Y. S. Walukamba... ...	Transferred to Native Administration.
Z. K. Banagaija	Kabale.
A. Kamya	Serere.
G. L. Kigundu	Bukalasa.
P. M. Sali	Mbarara.
F. H. O. Mugambwa Zake ...	Kampala.
H. R. Berunga	Mubende.
Y. B. Kidza	Bukalasa.
J. K. Maviri	Kampala.
Y. Mugenyi	*Resigned.*
T. K. Otim	Gulu.
J. M. Sekimpi	Kampala.
Y. Yigga	Kampala.
O. L. Lalobo	Lira.
Y. E. Onaba	Arua.
D. Kyagaba	Masaka.
S. M. N. Kijambu ...	Masaka.
J. M. Luzinda	Kampala.
E. Rwakaikara	Hoima.
P. S. Bulera	Kabale.
J. G. Wanyoto	Mbale.
H. Semambo	Serere.
Z. Sekidde	Mubende.
G. F. Sagala	Bukalasa.
I. Bulikiro	Kabale.
R. Kachope	Arua.
Z. M. Wanyama	Soroti.
Y. Kimoimo	Kawanda.
A. G. Kibulo	Mbale.
J. A. Wandera	Entebbe.
S. L. Takirambude ...	Gulu.
S. B. Kikule	Busoga.
H. Muloki	Serere.
S. Mukasa	Serere.
W. Kaboha	Fort Portal.
D. Kawalya	Arua.
J. S. Musisi	Busoga.
F. J. Luswata	Masaka.
J. S. Laker	Lira.

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